Junos® OS for EX Series Ethernet Switches

Configuration File Management on EX Series Switches

Release
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Release 12.2
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Supported Platforms

For the features described in this document, the following platforms are supported:

- EX Series

Using the Examples in This Manual

If you want to use the examples in this manual, you can use the **load merge** or the **load merge relative** command. These commands cause the software to merge the incoming configuration into the current candidate configuration. The example does not become active until you commit the candidate configuration.

If the example configuration contains the top level of the hierarchy (or multiple hierarchies), the example is a *full example*. In this case, use the **load merge** command.

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If the example configuration does not start at the top level of the hierarchy, the example is a *snippet*. In this case, use the **load merge relative** command. These procedures are described in the following sections.

Merging a Full Example

To merge a full example, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration example into a text file, save the file with a name, and copy the file to a directory on your routing platform.

   For example, copy the following configuration to a file and name the file **ex-script.conf**. Copy the **ex-script.conf** file to the **/var/tmp** directory on your routing platform.

   ```
   system {
     scripts {
       commit {
         file ex-script.xsl;
       }
     }
   }
   interfaces {
     fxp0 {
       disable;
       unit 0 {
         family inet {
           address 10.0.0.1/24;
         }
       }
     }
   }
   ```

2. Merge the contents of the file into your routing platform configuration by issuing the **load merge** configuration mode command:

   ```
   [edit]
   user@host# load merge /var/tmp/ex-script.conf
   load complete
   ```

Merging a Snippet

To merge a snippet, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration snippet into a text file, save the file with a name, and copy the file to a directory on your routing platform.

   For example, copy the following snippet to a file and name the file **ex-script-snippet.conf**. Copy the **ex-script-snippet.conf** file to the **/var/tmp** directory on your routing platform.

   ```
   commit {
     file ex-script-snippet.xsl; }
   ```

2. Move to the hierarchy level that is relevant for this snippet by issuing the following configuration mode command:

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```
[edit]
user@host# edit system scripts
[edit system scripts]
```

3. Merge the contents of the file into your routing platform configuration by issuing the **load merge relative** configuration mode command:

```
[edit system scripts]
user@host# load merge relative /var/tmp/ex-script-snippet.conf
load complete
```

For more information about the **load** command, see the *Junos OS CLI User Guide*.

Documentation Conventions

Table 1 on page xiii defines notice icons used in this guide.

Table 1: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.

Table 2 on page xiii defines the text and syntax conventions used in this guide.

Table 2: Text and Syntax Conventions

Convention	Description	Examples
Bold text like this	Represents text that you type.	To enter configuration mode, type the**configure** command: **user@host> configure**
`Fixed-width text like this`	Represents output that appears on the terminal screen.	`user@host>` **show chassis alarms** `No alarms currently active`

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Table 2: Text and Syntax Conventions *(continued)*

Convention	Description	Examples
Italic text like this	• Introduces or emphasizes important new terms. • Identifies book names. • Identifies RFC and Internet draft titles.	• A policy *term* is a named structure that defines match conditions and actions. • *Junos OS System Basics Configuration Guide* • RFC 1997, *BGP Communities Attribute*
Italic text like this	Represents variables (options for which you substitute a value) in commands or configuration statements.	Configure the machine's domain name: [edit] root@# **set system domain-name** *domain-name*
Text like this	Represents names of configuration statements, commands, files, and directories; configuration hierarchy levels; or labels on routing platform components.	• To configure a stub area, include the **stub** statement at the **[edit protocols ospf area area-id]** hierarchy level. • The console port is labeled **CONSOLE**.
< > (angle brackets)	Enclose optional keywords or variables.	**stub <default-metric** ***metric*****>;**
| (pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	**broadcast | multicast** (***string1*** **|** ***string2*** **|** ***string3***)
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	**rsvp { # Required for dynamic MPLS only**
[ ] (square brackets)	Enclose a variable for which you can substitute one or more values.	**community name members [** ***community-ids*** **]**

Indention and braces ({ })	Identify a level in the configuration hierarchy.	[edit]
		routing-options {
		  static {
		  route default {
		  nexthop *address*;
		  retain;
		  }
		  }
		}

; (semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
J-Web GUI Conventions		
Bold text like this	Represents J-Web graphical user interface (GUI) items you click or select.	• In the Logical Interfaces box, select **All Interfaces**. • To cancel the configuration, click **Cancel**.
> (bold right angle bracket)	Separates levels in a hierarchy of J-Web selections.	In the configuration editor hierarchy, select **Protocols>Ospf**.

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- Document or topic name
- URL or page number
- Software release version (if applicable)

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- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf .
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- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

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- Find product documentation: http://www.juniper.net/techpubs/
- Find solutions and answer questions using our Knowledge Base: http://kb.juniper.net/
- Download the latest versions of software and review release notes: http://www.juniper.net/customers/csc/software/
- Search technical bulletins for relevant hardware and software notifications: https://www.juniper.net/alerts/

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- Join and participate in the Juniper Networks Community Forum: http://www.juniper.net/company/communities/
- Open a case online in the CSC Case Management tool: http://www.juniper.net/cm/

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: https://tools.juniper.net/SerialNumberEntitlementSearch/

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at http://www.juniper.net/cm/ .
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see http://www.juniper.net/support/requesting-support.html .

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PART 1

Overview

- Software Overview on page 3
- Configuration Files Overview on page 7

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CHAPTER 1

Software Overview

- Understanding Software Infrastructure and Processes on page 3

Understanding Software Infrastructure and Processes

Each switch runs the Juniper Networks Junos operating system (Junos OS) for Juniper Networks EX Series Ethernet Switches on its general-purpose processors. Junos OS includes processes for Internet Protocol (IP) routing and for managing interfaces, networks, and the chassis.

The Junos OS runs on the Routing Engine. The Routing Engine kernel coordinates communication among the Junos OS processes and provides a link to the Packet Forwarding Engine.

With the J-Web interface and the command-line interface (CLI) to the Junos OS, you configure switching features and routing protocols and set the properties of network interfaces on your switch. After activating a software configuration, use either the J-Web or CLI user interface to monitor the switch, manage operations, and diagnose protocol and network connectivity problems.

- Routing Engine and Packet Forwarding Engine on page 3
- Junos OS Processes on page 4

Routing Engine and Packet Forwarding Engine

A switch has two primary software processing components:

- Packet Forwarding Engine—Processes packets; applies filters, routing policies, and other features; and forwards packets to the next hop along the route to their final destination.
- Routing Engine—Provides three main functions:
  - Creates the packet forwarding switch fabric for the switch, providing route lookup, filtering, and switching on incoming data packets, then directing outbound packets to the appropriate interface for transmission to the network
  - Maintains the routing tables used by the switch and controls the routing protocols that run on the switch.

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- Provides control and monitoring functions for the switch, including controlling power and monitoring system status.

Junos OS Processes

The Junos OS running on the Routing Engine and Packet Forwarding Engine consists of multiple processes that are responsible for individual functions.

The separation of functions provides operational stability, because each process accesses its own protected memory space. In addition, because each process is a separate software package, you can selectively upgrade all or part of the Junos OS, for added flexibility.

Table 3 on page 4 describes the primary Junos OS processes.

Table 3: Junos OS Processes

Process	Name	Description
Chassis process	chassisd	Detects hardware on the system that is used to configure network interfaces. Monitors the physical status of hardware components and field-replaceable units (FRUs), detecting when environment sensors such as temperature sensors are triggered. Relays signals and interrupts—for example, when devices are taken offline, so that the system can close sessions and shut down gracefully.
Ethernet switching process	eswd	Handles Layer 2 switching functionality such as MAC address learning, Spanning Tree protocol and access port security. The process is also responsible for managing Ethernet switching interfaces, VLANs, and VLAN interfaces. Manages Ethernet switching interfaces, VLANs, and VLAN interfaces.
Forwarding process	pfem	Defines how routing protocols operate on the switch. The overall performance of the switch is largely determined by the effectiveness of the forwarding process.
Interface process	dcd	Configures and monitors network interfaces by defining physical characteristics such as link encapsulation, hold times, and keepalive timers.
Management process	mgd	Provides communication between the other processes and an interface to the configuration database. Populates the configuration database with configuration information and retrieves the information when queried by other processes to ensure that the system operates as configured. Interacts with the other processes when commands are issued through one of the user interfaces on the switch. If a process terminates or fails to start when called, the management process attempts to restart it a limited number of times to prevent thrashing and logs any failure information for further investigation.
Routing protocol process	rpd	Defines how routing protocols such as RIP, OSPF, and BGP operate on the device, including selecting routes and maintaining forwarding tables.

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Related Documentation

- For more information about processes, see *Junos OS Network Operations Guide*
- For more information about basic system parameters, supported protocols, and software processes, see *Junos OS System Basics Configuration Guide*

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CHAPTER 2

Configuration Files Overview

- Understanding Configuration Files for EX Series Switches on page 7
- Using the CLI Viewer in the J-Web Interface to View Configuration Text on page 8
- Using the CLI Editor in the J-Web Interface to Edit Configuration Text on page 8
- Using the Point and Click CLI Tool in the J-Web Interface to Edit Configuration Text on page 9
- Understanding Automatic Refreshing of Scripts on EX Series Switches on page 10
- Understanding Autoinstallation of Configuration Files on EX Series Switches on page 11
- Configuration Files Terms on page 13

Understanding Configuration Files for EX Series Switches

A configuration file stores the complete configuration of a switch. The current configuration of a switch is called the active configuration. You can alter this current configuration and you can also return to a previous configuration or to a rescue configuration. For more information, see "Configuration Files Terms" on page 13.

Juniper Networks Junos operating system (Junos OS) saves the 50 most recently committed configuration files on the switch so that you can return to a previous configuration. The configuration files are named:

- **juniper.conf.gz**—The current active configuration.
- **juniper.conf.1.gz** to **juniper.conf.49.gz**—Rollback configurations.

To make changes to the configuration file, you have to work in the configuration mode in the CLI or use the configuration tools in the J-Web interface. When making changes to a configuration file, you are viewing and changing the candidate configuration file. The candidate configuration allows you to make configuration changes without causing operational changes to the active configuration or causing potential damage to your current network operations. Once you commit the changes made to the candidate configuration, the system updates the active configuration.

Related Documentation

- Managing Configuration Files Through the Configuration History (J-Web Procedure) on page 79
- Uploading a Configuration File (CLI Procedure) on page 17

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- Uploading a Configuration File (J-Web Procedure) on page 19
- Loading a Previous Configuration File (CLI Procedure) on page 19
- Reverting to the Rescue Configuration for the EX Series Switch on page 23
- Configuration Files Terms on page 13

Using the CLI Viewer in the J-Web Interface to View Configuration Text

To view the entire configuration file contents in text format, select **Configure** > **CLI Tools** > **CLI Viewer**. The main pane displays the configuration in text format.

Each level in the hierarchy is indented to indicate each statement's relative position in the hierarchy. Each level is generally set off with braces, with an open brace ({) at the beginning of each hierarchy level and a closing brace (}) at the end. If the statement at a hierarchy level is empty, the braces are not displayed. Each leaf statement ends with a semicolon (;), as does the last statement in the hierarchy.

This indented representation is used when the configuration is displayed or saved as an ASCII file. However, when you load an ASCII configuration file, the format of the file is not so strict. The braces and semicolons are required, but the indention and use of new lines are not required in ASCII configuration files.

Related Documentation

- Understanding J-Web Configuration Tools

Using the CLI Editor in the J-Web Interface to Edit Configuration Text

Use the CLI Editor to edit configuration if you know the Junos OS CLI or prefer a command interface.

To edit the entire configuration in text format:

CAUTION: **We recommend that you use this method to edit and commit the configuration only if you have experience editing configurations through the CLI.**

1. Select **Configure** > **CLI Tools** > **CLI Editor**. The main pane displays the configuration in a text editor.
2. Navigate to the hierarchy level you want to edit.

   You can edit the candidate configuration using standard text editor operations—insert lines (by using the Enter key), delete lines, and modify, copy, and paste text.
3. Click **Commit** to load and commit the configuration.

   The switching platform checks the configuration for the correct syntax before committing it.

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Related Documentation

- CLI User Interface Overview
- Understanding J-Web Configuration Tools

Using the Point and Click CLI Tool in the J-Web Interface to Edit Configuration Text

To edit the configuration on a series of pages of clickable options that steps you through the hierarchy, select **Configure** > **CLI Tools** > **Point&Click CLI**. The side pane displays the top level of the configured hierarchy, and the main pane displays configured hierarchy options and the Icon Legend.

To expand or hide the hierarchy of all the statements in the side pane, click **Expand all** or **Hide all**. To expand or hide an individual statement in the hierarchy, click the expand (+) or collapse (–) icon to the left of the statement.

TIP: **Only those statements included in the committed configuration are displayed in the hierarchy.**

The configuration information in the main pane consists of configuration options that correspond to configuration statements. Configuration options that contain subordinate statements are identified by the term *Nested*.

To include, edit, or delete statements in the candidate configuration, click one of the links described in Table 4 on page 9. Then specify configuration information by typing in a field, selecting a value from a list, or clicking a check box (toggle).

Table 4: J-Web Edit Point & Click Configuration Links

Link	Function
Add new entry	Displays fields and lists for a statement identifier, allowing you to add a new identifier to a statement.
Configure	Displays information for a configuration option that has not been configured, allowing you to include a statement.
Delete	Deletes the corresponding statement or identifier from the configuration. All subordinate statements and identifiers contained within a deleted statement are also discarded.
Edit	Displays information for a configuration option that has already been configured, allowing you to edit a statement.
Identifier	Displays fields and lists for an existing statement identifier, allowing you to edit the identifier.

As you navigate through the configuration, the hierarchy level is displayed at the top of the main pane. You can click a statement or identifier in the hierarchy to display the corresponding configuration options in the main pane.

The main pane includes icons that display information about statements and identifiers when you place your cursor over them. Table 5 on page 10 describes these icons.

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Table 5: J-Web Edit Point & Click Configuration Icons

Icon	Function
C	Displays a comment about a statement.
I	Indicates that a statement is inactive.
M	Indicates that a statement has been added or modified but has not been committed.
*	Indicates that the statement or identifier is required in the configuration.
?	Provides online help information.

After typing or selecting your configuration edits, click a button in the main pane (described in Table 6 on page 10) to apply your changes or cancel them, refresh the display, or discard parts of the candidate configuration. An updated configuration does not take effect until you commit it.

Table 6: J-Web Edit Point & Click Configuration Buttons

Button	Function
Refresh	Updates the display with any changes to the configuration made by other users.
Commit	Verifies edits and applies them to the current configuration file running on the switch.
Discard	Removes edits applied to or deletes existing statements or identifiers from the candidate configuration.

Related Documentation

- CLI User Interface Overview
- Understanding J-Web Configuration Tools

Understanding Automatic Refreshing of Scripts on EX Series Switches

You can automatically refresh **commit**, **event**, and **op** scripts using operational mode commands on EX Series switches. The commands are:

- request system scripts refresh-from commit
- request system scripts refresh-from event
- request system scripts refresh-from op

The existing Junos operating system (Junos OS) command-line interface (CLI) **refresh** and **refresh-from** configuration mode statements have been extended to work with Junos XML management protocol and NETCONF XML management protocol sessions.

Related Documentation

- Understanding Autoinstallation of Configuration Files on EX Series Switches on page 11
- CLI User Interface Overview

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- *Junos OS Junos XML Management Protocol Guide*
- *Junos OS NETCONF XML Management Protocol Guide*

Understanding Autoinstallation of Configuration Files on EX Series Switches

Autoinstallation is the automatic configuration of a device over the network from a pre-existing configuration file that you create and store on a configuration server—typically a Trivial File Transfer Protocol (TFTP) server. You can use autoinstallation to automatically configure new devices and to deploy multiple devices from a central location in the network.

You enable autoinstallation on Juniper Networks EX Series Ethernet Switches in your network to implement autoinstallation when they are powered on. To configure autoinstallation, you specify a configuration server, an autoinstallation interface, and a protocol for IP address acquisition.

This topic describes:

- Typical Uses for Autoinstallation on page 11
- Autoinstallation Configuration Files and IP Addresses on page 11
- Typical Autoinstallation Process on a New Switch on page 12

Typical Uses for Autoinstallation

Typical uses for autoinstallation of the software include:

- To deploy and update multiple devices from a central location in the network.
- To update a device—Autoinstallation takes place when a device that has been manually configured for autoinstallation is powered on.

Autoinstallation Configuration Files and IP Addresses

For the autoinstallation process to work, you must store one or more host-specific or default configuration files on a configuration server in the network and have a service available—typically Dynamic Host Configuration Protocol (DHCP)—to assign an IP address to the switch.

You can set up the following configuration files for autoinstallation on the switch:

- **network.conf**—Default configuration file for autoinstallation, in which you specify IP addresses and associated hostnames for devices on the network.
- **switch.conf**—Default configuration file for autoinstallation with a minimum configuration sufficient for you to telnet to the device and configure it manually.
- ***hostname*.conf**—Host-specific configuration file for autoinstallation on a device that contains all the configuration information necessary for the switch. In the filename, ***hostname*** is replaced with the hostname assigned to the switch.

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If the server with the autoinstallation configuration file is not on the same LAN segment as the new device, or if a specific device is required by the network, you must configure an intermediate device directly attached to the new switch, through which the new switch can send TFTP, boot protocol (BOOTP), and Domain Name System (DNS) requests. In this case, you specify the IP address of the intermediate device as the location to receive TFTP requests for autoinstallation.

Typical Autoinstallation Process on a New Switch

When the switch configured for autoinstallation is powered on, it performs the following autoinstallation tasks:

1. The switch sends out DHCP or BOOTP requests on each connected interface simultaneously to obtain an IP address.

   If a DHCP server responds to these requests, it provides the switch with some or all of the following information:

   - An IP address and subnet mask for the autoinstallation interface.
   - The location of the (typically) TFTP server, Hypertext Transfer Protocol (HTTP) server, or FTP server on which the configuration file is stored.
   - The name of the configuration file to be requested from the TFTP server.
   - The IP address or hostname of the TFTP server.

     If the DHCP server provides the server's hostname, a DNS server must be available on the network to resolve the name to an IP address.
   - The IP address of an intermediate device if the configuration server is on a different LAN segment from the switch.

2. After the switch acquires an IP address, the autoinstallation process on the switch attempts to download a configuration file in the following ways:

   a. If the DHCP server specifies the host-specific configuration file ***hostname*.conf**, the switch uses that filename in the TFTP server request. The autoinstallation process on the new switch makes three unicast TFTP requests for ***hostname*.conf**. If these attempts fail, the switch broadcasts three requests to any available TFTP server for the file.

   b. If the switch does not locate a ***hostname*.conf** file, the autoinstallation process sends three unicast TFTP requests for a **network.conf** file that contains the switch's hostname-to-IP-address mapping information. If these attempts fail, the switch broadcasts three requests to any available TFTP server for the file.

   c. If the switch fails to find a **network.conf** file that contains a hostname entry for the switch, the autoinstallation process sends out a DNS request and attempts to resolve the switch's IP address to a hostname.

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d. If the switch determines its hostname, it sends a TFTP request for the ***hostname*.conf** file.

e. If the switch is unable to map its IP address to a hostname, it sends TFTP requests for the default configuration file **switch.conf**. The TFTP request procedure is the same as for the **network.conf** file.

3. After the switch locates a configuration file on a TFTP server, the autoinstallation process downloads the file, installs the file on the switch, and commits the configuration.

Related Documentation

- Configuring Autoinstallation of Configuration Files (CLI Procedure) on page 25
- Connecting and Configuring an EX Series Switch (CLI Procedure)
- Connecting and Configuring an EX Series Switch (J-Web Procedure)
- Configuration Files Terms on page 13

Configuration Files Terms

Table 7 on page 13 lists the various configuration file terms used for EX Series switches and their definitions.

Table 7: Configuration File Terms

Term	Definition
active configuration	The current committed configuration of a switch.
candidate configuration	A working copy of the configuration that allows users to make configurational changes without causing any operational changes until this copy is committed.
configuration group	Group of configuration statements that can be inherited by the rest of the configuration.
commit a configuration	Have the candidate configuration checked for proper syntax, activated, and marked as the current configuration file running on the switching platform.
configuration hierarchy	The Junos OS configuration consists of a hierarchy of statements. There are two types of statements: container statements, which contain other statements, and leaf statements, which do not contain other statements. All the container and leaf statements together form the configuration hierarchy.
default configuration	The default configuration contains the initial values set for each configuration parameter when a switch is shipped.
rescue configuration	Well-known configuration that recovers a switch from a configuration that denies management access. You set a current committed configuration to be the rescue configuration through the J-Web interface or CLI.
roll back a configuration	Return to a previously committed configuration.

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Related Documentation

- EX2200 Switch Default Configuration on page 29
- EX3200 Default Configuration on page 33
- EX4200 Default Configuration on page 42
- EX4500 Default Configuration on page 46
- EX8200 Switch Default Configuration on page 63
- Loading a Previous Configuration File (CLI Procedure) on page 19
- Managing Configuration Files Through the Configuration History (J-Web Procedure) on page 79
- Reverting to the Rescue Configuration for the EX Series Switch on page 23
- Understanding Configuration Files for EX Series Switches on page 7

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PART 2

Configuration

- Configuration Tasks on page 17
- Default Configurations on page 29
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CHAPTER 3

Configuration Tasks

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- Uploading a Configuration File (J-Web Procedure) on page 19
- Loading a Previous Configuration File (CLI Procedure) on page 19
- Reverting to the Default Factory Configuration for the EX Series Switch on page 20
- Reverting to the Rescue Configuration for the EX Series Switch on page 23
- Setting or Deleting the Rescue Configuration (CLI Procedure) on page 24
- Setting or Deleting the Rescue Configuration (J-Web Procedure) on page 25
- Configuring Autoinstallation of Configuration Files (CLI Procedure) on page 25
- Using the Commit Options to Commit Configuration Changes (J-Web Procedure) on page 27

Uploading a Configuration File (CLI Procedure)

You can create a configuration file on your local system, copy the file to the EX Series switch and then load the file into the CLI. After you have loaded the configuration file, you can commit it to activate the configuration on the switch. You can also edit the configuration interactively using the CLI and commit it at a later time.

To upload a configuration file from your local system:

1. Create the configuration file using a text editor such as Notepad, making sure that the syntax of the configuration file is correct. For more information about testing the syntax of a configuration file see the *Junos OS System Basics and Services Command Reference*.
2. In the configuration text file, use an option to perform the required action when the file is loaded. Table 8 on page 17 lists and describes some options for the **load** command.

Table 8: Options for the load command

Options	Description
merge	Combines the current active configuration and the configuration in *filename* or the one that you type at the terminal. A **merge** operation is useful when you are adding a new section to an existing configuration. If the active configuration and the incoming configuration contain conflicting statements, the statements in the incoming configuration override those in the active configuration.

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Table 8: Options for the load command *(continued)*

Options	Description
override	Discards the current candidate configuration and loads the configuration in *filename* or the one that you type at the terminal. When you use the **override** option and commit the configuration, all system processes reparse the configuration. You can use the **override** option at any level of the hierarchy.
replace	Searches for the **replace** tags, deletes the existing statements of the same name, if any, and replaces them with the incoming configuration. If there is no existing statement of the same name, the **replace** operation adds the statements marked with the **replace** tag to the active configuration. NOTE: For this operation to work, you must include **replace** tags in the text file or in the configuration you type at the terminal.

3. Press Ctrl+A to select all the text in the configuration file.
4. Press Ctrl+C to copy the contents of the configuration text file to the Clipboard.
5. Log in to the switch using your username and password.
6. To enter configuration mode:
   user@switch> configure

   You will see this output, with the hash or pound mark indicating configuration mode.
   Entering configuration mode
   [edit]
   user@switch#
7. Load the configuration file:
   [edit]
   user@switch# load merge terminal
8. At the cursor, paste the contents of the Clipboard using the mouse and the Paste icon:
   [edit]
   user@switch# load merge terminal
   [Type ^D at a new line to end input]
   >Cursor is here. Paste the contents of the clipboard here<
9. Press Enter.
10. Press Ctrl+D to set the end-of-file marker.

To view results of the configuration steps before committing the configuration, type the **show** command at the user prompt.

To commit these changes to the active configuration, type the **commit** command at the user prompt.You can also edit the configuration interactively using the CLI and commit it at a later time.

Related Documentation

- Uploading a Configuration File (J-Web Procedure) on page 19
- Understanding Configuration Files for EX Series Switches on page 7

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Uploading a Configuration File (J-Web Procedure)

You can create a configuration file on your local system, copy the file to the EX Series switch and then load the file into the CLI. After you have loaded the configuration file, you can commit it to activate the configuration on the switch. You can also edit the configuration interactively using the CLI and commit it at a later time.

To upload a configuration file from your local system:

1. Select **Maintain** > **Config Management** > **Upload**.

   The main pane displays the File to Upload box.

2. Specify the name of the file to upload using one of the following methods:
   - Type the absolute path and filename in the File to Upload box.
   - Click **Browse** to navigate to the file.
3. Click **Upload and Commit** to upload and commit the configuration.

   The switch checks the configuration for the correct syntax before committing it.

Related Documentation

- Uploading a Configuration File (CLI Procedure) on page 17
- Understanding J-Web Configuration Tools
- Understanding Configuration Files for EX Series Switches on page 7

Loading a Previous Configuration File (CLI Procedure)

You can return to a previously committed configuration file if you need to revert to a previous configuration. The EX Series switch saves the last 50 committed configurations, including the rollback number, date, time, and name of the user who issued the **commit** configuration command.

Syntax

rollback <*number*>

Options

- **none**— Return to the most recently saved configuration.
- *number*—Configuration to return to.
  - **Range**: 0 through 49. The most recently saved configuration is number 0, and the oldest saved configuration is number 49.
  - **Default**: 0

To return to a configuration prior to the most recently committed one:

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1. Specify the rollback number (here, 1 is entered and the configuration returns to the previously committed configuation):

   ```
   [edit]
   user@switch# rollback 1
   load complete
   ```

2. Activate the configuration you have loaded:

   ```
   [edit]
   user@switch# commit
   ```

Related Documentation

- Managing Configuration Files Through the Configuration History (J-Web Procedure) on page 79
- Configuration Files Terms on page 13
- For more information on rollback, see *Junos OS CLI User Guide* .

Reverting to the Default Factory Configuration for the EX Series Switch

If for any reason the current active configuration fails, you can revert to the default factory configuration. You can also roll back to a previous configuration, as described in "Loading a Previous Configuration File (CLI Procedure)" on page 19, or revert to the rescue configuration, as described in "Reverting to the Rescue Configuration for the EX Series Switch" on page 23.

The default factory configuration contains the basic configuration settings. This is the first configuration of the switch and it is loaded when the switch is first installed and powered on.

You can revert to the default factory configuration by using the **Menu** button to the right of the LCD on the front panel of the switch or by using the **request system zeroize** operational command or the **load factory-default** configuration command. (If your switch model does not have an LCD panel, use the commands.)

TIP: If you have lost the root password, it is not necessary to revert to the factory default configuration to reset it. See "Troubleshooting Loss of the Root Password" on page 127.

- Reverting to the Default Factory Configuration by Using the LCD Panel on page 21
- Reverting to the Default Factory Configuration by Using the request system zeroize Command on page 21
- Reverting to the Default Factory Configuration by Using the load factory-default Command on page 22

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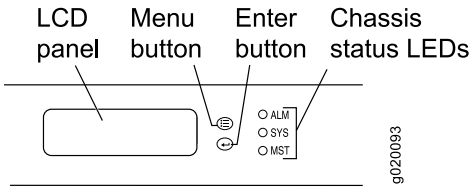
Reverting to the Default Factory Configuration by Using the LCD Panel

To set the switch to the default factory configuration, use the LCD panel and buttons on the front panel of the switch as shown in Figure 1 on page 21. If the switch model does not have an LCD panel, use one of the CLI commands described in the following sections.

Use the LCD panel to revert to the default factory configuration if you want to run EZsetup. When you use the CLI to revert to the default factory configuration, the configuration for the root password is retained and you cannot run EZSetup.

Figure 1: EX Series Switch LCD Panel



NOTE: If you want to convert an EX3300, EX4200, or EX4500 switch from a member of a multimember Virtual Chassis configuration to a standalone switch, first disconnect the cables connected to the Virtual Chassis ports (VCPs). See Disconnecting a Fiber-Optic Cable from an EX Series Switch, Disconnecting a Virtual Chassis Cable from an EX4200 Switch, or Disconnecting a Virtual Chassis Cable from an EX4500 Switch. The Menu button procedure deletes all modified configuration parameters, including Virtual Chassis parameters such as member ID, mastership priority, and setting of VCP uplinks.

To revert to the default factory configuration by using the LCD panel:

1. Press the **Menu** button until you see MAINTENANCE MENU on the panel.
2. Press the **Enter** button.
3. Press **Menu** until you see FACTORY DEFAULT.
4. Press **Enter**. The display says RESTORE DEFAULT?
5. Press **Enter**. The screen flashes **FACTORY DEFAULT IN PROGRESS** and returns to the idle menu.

Reverting to the Default Factory Configuration by Using the request system zeroize Command

The **request system zeroize** command is a standard Junos OS operational mode command.

Issuing this command removes all configuration information and resets all key values. The operation unlinks all user-created data files, including customized configuration and log files, from their directories. The switch then reboots and reverts to the default factory configuration.

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To completely erase user-created data so that it is unrecoverable, use the **request system zeroize media** command.

CAUTION: Before issuing **request system zeroize**, use the **request system snapshot** command to back up the files currently used to run the switch to a secondary device.

To revert to the default factory configuration by using the **request system zeroize** command:

1. `user@switch>` **request system zeroize**
   `warning: System will be rebooted and may not boot without configuration`
   `Erase all data, including configuration and log files? [yes,no] (yes)`
2. Type **yes** to remove configuration and log files and revert to the factory default configuration.

NOTE: After running the **request system zeroize** command, you cannot access the switch through the management Ethernet interface. Instead, log in through the console as **root** and start the Junos OS CLI by typing **cli** at the prompt.

Reverting to the Default Factory Configuration by Using the load factory-default Command

The **load factory-default** command is a standard Junos OS configuration command. Issuing this configuration command replaces the current active configuration with the default factory configuration.

Use the LCD panel to revert to the default factory configuration if you want to run EZSetup. When you use the CLI to revert to the default factory configuration, the configuration for the root password is retained and you cannot run EZSetup.

NOTE: The **load factory-default** command by itself is not supported on EX3300, EX4200, and EX4500 switches configured in a Virtual Chassis with multiple members.

To revert to the default factory configuration by using the **load factory-default** command:

1. [edit]
   user@switch# **load factory-default**
2. [edit]
   user@switch# **delete system commit factory-settings**
3. [edit]
   user@switch# **set system root-authentication plain-text-password**
4. [edit]

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user@switch# **commit**

5. Check the member ID and mastership priority with the **show virtual-chassis status** command and check to see whether there are remaining settings for uplink VCPs by using the **show virtual-chassis vc-port** command.

Related Documentation

- Configuring an EX4200 or EX4500 Virtual Chassis (CLI Procedure)
- EX2200 Switch Default Configuration on page 29
- EX3200 Default Configuration on page 33
- EX3300 Switch Default Configuration on page 37
- EX4200 Default Configuration on page 42
- EX4500 Default Configuration on page 46
- EX8200 Switch Default Configuration on page 63
- Understanding Configuration Files for EX Series Switches on page 7
- For more information about the load factory-default command, see *Junos OS CLI User Guide*.

Reverting to the Rescue Configuration for the EX Series Switch

If someone inadvertently commits a configuration that denies management access to an EX Series switch and the console port is not accessible, you can overwrite the invalid configuration and replace it with the rescue configuration by using the LCD panel on the switch. The rescue configuration is a previously committed, valid configuration.

You can also revert to the default factory configuration, as described in "Reverting to the Default Factory Configuration for the EX Series Switch" on page 20.

Before you begin to revert to the rescue configuration:

- Ensure that you have physical access to the switch.
- A rescue configuration for the switch must have been previously set.

To revert the switch to the rescue configuration:

1. At the LCD panel on the switch, press **Menu** until you see **MAINTENANCE MENU**.
2. Press **Enter**.
3. Press **Menu** until you see **Load Rescue**.
4. Press **Enter**.
5. When **Commit Rescue** is displayed, press **Enter**.

   The LCD panel displays the message **Commit Rescue in Progress**. When the reversion is complete, it displays the idle menu.

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NOTE: If there is no rescue configuration saved on the switch, the message **Commit rescue failed** is displayed.

Related Documentation

- Setting or Deleting the Rescue Configuration (CLI Procedure) on page 24
- Setting or Deleting the Rescue Configuration (J-Web Procedure) on page 25
- LCD Panel in EX3200 Switches
- LCD Panel in EX4200 Switches
- LCD Panel in EX4500 Switches
- LCD Panel in an EX8200 Switch
- Configuration Files Terms on page 13

Setting or Deleting the Rescue Configuration (CLI Procedure)

A rescue configuration is a well-known configuration that recovers a switch from a configuration that denies management access. You set a current committed configuration to be the rescue configuration through the J-Web interface or CLI.

If someone inadvertently commits a configuration that denies management access to an EX Series switch and the console port is not accessible, you can overwrite the invalid configuration and replace it with the rescue configuration by using the LCD panel on the switch. The rescue configuration is a previously committed, valid configuration. We recommend that the rescue configuration include the IP address (accessible from the network) for the management port.

To set the current active configuration as the rescue configuration:

```
user@switch> request system configuration rescue save
```

To delete an existing rescue configuration:

```
user@switch> request system configuration rescue delete
```

Related Documentation

- Setting or Deleting the Rescue Configuration (J-Web Procedure) on page 25
- Reverting to the Rescue Configuration for the EX Series Switch on page 23
- Loading a Previous Configuration File (CLI Procedure) on page 19
- Configuration Files Terms on page 13
- For information on show system configuration rescue, see *Junos OS System Basics and Services Command Reference* .

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Setting or Deleting the Rescue Configuration (J-Web Procedure)

A rescue configuration is a well-known configuration that recovers a switch from a configuration that denies management access. You set a current committed configuration to be the rescue configuration through the J-Web interface or CLI.

If someone inadvertently commits a configuration that denies management access to an EX Series switch and the console port is not accessible, you can overwrite the invalid configuration and replace it with the rescue configuration by using the LCD panel on the switch. The rescue configuration is a previously committed, valid configuration. We recommend that the rescue configuration include the IP address (accessible from the network) for the management port.

To view, set, or delete the rescue configuration using the J-Web interface, select **Maintain** > **Config Management** > **Rescue**. On the Rescue page, you can perform the following tasks:

- View the current rescue configuration—Click **View rescue configuration**.
- Set the current running configuration as the rescue configuration—Click **Set rescue configuration**.
- Delete the current rescue configuration—Click **Delete rescue configuration**.

Related Documentation

- Setting or Deleting the Rescue Configuration (CLI Procedure) on page 24
- Reverting to the Rescue Configuration for the EX Series Switch on page 23
- Configuration Files Terms on page 13

Configuring Autoinstallation of Configuration Files (CLI Procedure)

Autoinstallation is the automatic configuration of a device over the network from a pre-existing configuration file that you create and store on a configuration server—typically a Trivial File Transfer Protocol (TFTP) server. You can use autoinstallation to automatically deploy multiple devices from a central location in the network.

To specify autoinstallation to run when you power on a switch already installed in your network, you can enable it by specifying one or more interfaces, protocols, and configuration servers to be used for autoinstallation.

Before you explicitly enable and configure autoinstallation on the switch, perform these tasks as needed for your network's configuration:

- Have a service available—typically Dynamic Host Configuration Protocol (DHCP)—to assign an IP address to the switch
- Configure a DHCP server on your network to meet your network requirements. You can configure an EX Series switch to operate as a DHCP server. For more information, see Configuring a DHCP Server on EX Series Switches (CLI Procedure).

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- Create one of the following configuration files, and store it on a TFTP server (or HTTP server or FTP server) in the network:
  - A host-specific file with the name ***hostname*.conf** for each switch undergoing autoinstallation. Replace ***hostname*** with the name of a switch. The ***hostname*.conf** file typically contains all the configuration information necessary for the switch with this hostname.
  - A default configuration file named **switch.conf** with the minimum configuration necessary to enable you to telnet into the new switch for further configuration.
- Physically attach the switch to the network using a Gigabit Ethernet port.
- If you configure the DHCP server to provide only the TFTP server hostname, add an IP address-to-hostname mapping entry for the TFTP server to the DNS database file on the Domain Name System (DNS) server in the network.
- If the switch is not on the same network segment as the DHCP server (or other device providing IP address resolution), configure an existing device as an intermediate device to receive TFTP and DNS requests and forward them to the TFTP server and the DNS server. You must configure the LAN or serial interface on the intermediate device with the IP addresses of the hosts providing TFTP and DNS services. Connect this interface to the switch.
- If you are using ***hostname*.conf** files for autoinstallation, you must also complete the following tasks:
  - Configure the DHCP server to provide a ***hostname*.conf** filename to each switch. Each switch uses its ***hostname*.conf** filename to request a configuration file from the TFTP server. Copy the necessary ***hostname*.conf** configuration files to the TFTP server.
  - Create a default configuration file named **network.conf**, and copy it to the TFTP server. This file contains IP-address-to-hostname mapping entries. If the DHCP server does not send a ***hostname*.conf** filename to a new switch, the switch uses **network.conf** to resolve its hostname based on its IP address.

    Alternatively, you can add the IP-address-to-hostname mapping entry for the switch to a DNS database file.

    The switch uses the hostname to request a ***hostname*.conf** file from the TFTP server.

To configure autoinstallation:

1. Specify the URL address of one or more servers from which to obtain configuration files.

```
[edit system]
user@switch# set autoinstallation configuration-servers tftp://tftpconfig.sp.com
```

NOTE: You can also use an FTP address, for example, **ftp://*user*:*password*@sftpconfig.sp.com**.

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2. Configure one or more Ethernet interfaces to perform autoinstallation and one or two procurement protocols for each interface. The switch uses the protocols to send a request for an IP address for the interface:

```
[edit system]
user@switch# set autoinstallation interfaces ge-0/0/0 bootp
```

Related Documentation

- Verifying Autoinstallation Status on an EX Series Switch on page 82
- Understanding Autoinstallation of Configuration Files on EX Series Switches on page 11
- Understanding DHCP Services for EX Series Switches

Using the Commit Options to Commit Configuration Changes (J-Web Procedure)

You can use the single-commit feature to commit all outstanding configuration changes in the J-Web interface on EX Series switches simultaneously. This helps in reducing the time J-Web takes for committing configurations because when changes are committed at every step, rollback configurations pile up.

For example, suppose you want to delete a firewall filter and add a new one. With immediate commits, you would need to commit your changes twice for this action. Using single commit, you can decrease the number of commits to one, thus saving time for working on other configurations.

When you edit a configuration, you work on a copy of the current configuration, which is your candidate configuration. The changes you make to the candidate configuration are visible through the user interface immediately, allowing other users to edit those configurations, but they do not take effect on the switch until you commit the changes. When you commit the configuration, the candidate file is checked for proper syntax, activated, and marked as the current, operational software configuration file. If multiple users are editing the configuration when you commit the candidate configuration, changes made by all users take effect.

You can configure the commit options to either commit all configuration changes together or commit each configuration change immediately using the J-Web Commit Preference page.

NOTE: There are some pages on which configuration changes must be committed immediately. For such pages, if you configure the commit options for a single commit, the system displays warning notifications that remind you to commit your changes immediately. An example of such a page is the Interface Page (**Configure** > **Interface**).

To configure the commit options on an EX Series switch using the J-Web interface:

1. Select **Commit Options**.

NOTE: All action links except **Preference** are disabled unless you edit, add, or delete a configuration.

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2. Choose an action. See Table 9 on page 28 for details on the actions.
3. Configure the commit options by selecting **Preference**. See Table 10 on page 28 for details on preference options.

Table 9: Commit Options

Menu Item	Function	Your Action
Commit	Commits the candidate configuration of the current user session, along with changes from other user sessions.	1. Select **Commit Options** > **Commit**. Changes are committed after the system validates your configuration. A window displays that the configuration was successfully committed or that the commit failed. 2. Click **OK**. Click **Details** to view the commit log.
Compare	Displays the XML log of pending uncommitted configurations on the device.	1. Select **Commit Options** > **Compare**. The XML log of pending configurations on the devices are displayed similar to the CLI interface, in a "human-readable" form. 2. Click **Close**.
Discard	Discards the candidate configuration of your current session, along with changes from other user sessions.	1. Select **Commit Options** > **Discard**. 2. Click **OK** to confirm the discard action. Your changes are discarded after the system validates your configuration.
Preference	Indicates your choice of committing all global configurations together or committing each configuration change immediately.	1. Select **Commit Options** > **Preference**. The Commit Preference page is displayed. 2. Configure the commit options by selecting your preference. See Table 10 on page 28 for details on preference options.

Table 10: Commit Preference Options

Option	Function
Validate and commit configuration changes	Sets the system to validate and force an immediate commit on every screen after every configuration change.
Validate configuration changes	Loads all the configuration changes for an accumulated single commit. If there are errors in loading the configuration, the errors are logged. This is the default mode. Once you select this option, you need to select **Commit Options** > **Commit** to commit your changes.

Related Documentation

- J-Web User Interface for EX Series Switches Overview
- EX Series Switch Software Features Overview

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CHAPTER 4

Default Configurations

- EX2200 Switch Default Configuration on page 29
- EX3200 Default Configuration on page 33
- EX3300 Switch Default Configuration on page 37
- EX4200 Default Configuration on page 42
- EX4500 Default Configuration on page 46
- EX4550 Default Configuration on page 52
- EX6200 Switch Default Configuration on page 62
- EX8200 Switch Default Configuration on page 63

EX2200 Switch Default Configuration

Each EX Series switch is programmed with a factory default configuration that contains the values set for each configuration parameter when a switch is shipped. The default configuration file for an EX2200 switch configures Ethernet switching and storm control on all interfaces, configures Power over Ethernet (PoE) on all interfaces of models that provide PoE, and enables the LLDP, LLDP-MED, and RSTP protocols and IGMP snooping.

When you commit changes to the configuration, a new configuration file is created that becomes the active configuration. You can always revert to the factory default configuration—because an EX2200 switch does not have an LCD panel, use the CLI commands to revert to the factory default configuration. See "Reverting to the Default Factory Configuration for the EX Series Switch" on page 20.

The following factory default configuration file is for an EX2200 switch with 24 ports, all of which have PoE capability:

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NOTE: The factory default configuration file is different for different EX2200 switch models.

The number of interfaces in the default configuration file depends on the number of ports in the EX2200 switch.

The poe stanza does not appear for models without PoE.

Uplink ports for the EX2200 switches except the EX2200-C models will be listed as ge-0/1/0 to ge-0/1/3 and for the EX2200-C switches as ge-0/1/0 to ge-0/1/1.

```
system {
    syslog {
        user * {
            any emergency;
        }
        file messages {
            any notice;
            authorization info;
        }
        file interactive-commands {
            interactive-commands any;
        }
    }
    commit {
        factory-settings {
            reset-chassis-lcd-menu;
            reset-virtual-chassis-configuration;
        }
    }
}
    interfaces {
        ge-0/0/0 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/1 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/2 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/3 {
            unit 0 {
                family ethernet-switching;
            }
        }
```


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```
ge-0/0/4 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/5 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/6 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/7 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/8 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/9 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/10 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/11 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/12 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/13 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/14 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/15 {
```

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```
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/16 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/17 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/18 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/19 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/20 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/21 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/22 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/23 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/1/0 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/1/1 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/1/2 {
    unit 0 {
```


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```
            family ethernet-switching;
        }
    }
    ge-0/1/3 {
        unit 0 {
            family ethernet-switching;
        }
    }
}
protocols {
    igmp-snooping {
        vlan all;
    }
    rstp;
    lldp {
        interface all;
    }
    lldp-med {
        interface all;
    }
}
ethernet-switching-options {
    storm-control {
        interface all;
    }
}
```

Related Documentation

- Configuration Files Terms on page 13
- Connecting and Configuring an EX Series Switch (CLI Procedure)
- Connecting and Configuring an EX Series Switch (J-Web Procedure)
- Understanding Configuration Files for EX Series Switches on page 7
- EX2200 Switches Hardware Overview

EX3200 Default Configuration

Each EX Series switch is programmed with a factory default configuration that contains the values set for each configuration parameter when a switch is shipped. The default configuration file sets values for system parameters such as **syslog** and **commit**; configures Power over Ethernet (PoE), storm control, and Ethernet switching on all interfaces; and enables the LLDP and RSTP protocols.

When you commit changes to the configuration, a new configuration file is created that becomes the active configuration. You can always revert to the factory default configuration. See "Reverting to the Default Factory Configuration for the EX Series Switch" on page 20.

The following factory default configuration file is for an EX3200 switch with 24 ports (for models that have more ports, this default configuration file has more interfaces):

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NOTE: In this example, ge-0/0/0 through ge-0/0/23 are the network interface ports. Optional uplink modules provide either two 10-gigabit small form-factor pluggable (XFP) transceivers (xe-0/1/0 and xe-0/1/1) or four 1-gigabit SFP transceivers (ge-0/1/0 through ge-0/1/3). Although you can install only one uplink module, the interfaces for both are shown below.

```
system {
    syslog {
        user * {
            any emergency;
        }
        file messages {
            any notice;
            authorization info;
        }
        file interactive-commands {
            interactive-commands any;
        }
    }
    commit {
        factory-settings {
            reset-chassis-lcd-menu;
            reset-virtual-chassis-configuration;
        }
    }
}
    interfaces {
        ge-0/0/0 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/1 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/2 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/3 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/4 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/5 {
```


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```
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/6 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/7 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/8 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/9 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/10 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/11 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/12 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/13 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/14 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/15 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/16 {
    unit 0 {
```

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```
        family ethernet-switching;
    }
}
ge-0/0/17 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/18 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/19 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/20 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/21 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/22 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/23 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/1/0 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/1/1 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/1/0 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/1/1 {
    unit 0 {
        family ethernet-switching;
```


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```
    }
  }
  ge-0/1/2 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/1/3 {
    unit 0 {
      family ethernet-switching;
    }
  }
}
protocols {
  igmp-snooping{
    vlan all;
  }
  lldp {
    interface all;
  }
  lldp-med {
    interface all;
  }
  rstp;
}
ethernet-switching-options {
  storm-control {
    interface all;
  }
}
poe {
  interface all;
}
```

Related Documentation

- Reverting to the Default Factory Configuration for the EX Series Switch on page 20
- Connecting and Configuring an EX Series Switch (CLI Procedure)
- Connecting and Configuring an EX Series Switch (J-Web Procedure)
- Understanding Configuration Files for EX Series Switches on page 7
- EX Series Switches Interfaces Overview

EX3300 Switch Default Configuration

Each EX Series switch is programmed with a factory default configuration that contains the values set for each configuration parameter when a switch is shipped.

The EX3300 switch default configuration:

- Sets Ethernet switching and storm control on all interfaces
- Sets Power over Ethernet (PoE) on all network ports of models that provide PoE

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- Enables the following protocols:
  - Internet Group Management Protocol (IGMP) snooping
  - Rapid Spanning Tree Protocol (RSTP)
  - Link Layer Discovery Protocol (LLDP)
  - Link Layer Discovery Protocol Media Endpoint Discovery (LLDP-MED)

When you commit changes to the configuration, a new configuration file is created that becomes the active configuration. You can always revert to the factory default configuration. See "Reverting to the Default Factory Configuration for the EX Series Switch" on page 20.

The following factory default configuration file is for an EX3300 switch with 24 PoE+-capable ports. This file might differ from the default configuration file on your switch in the following ways:

- If your model has 48 ports, the file contains more interfaces, which correspond to the additional network ports.
- If your model is not PoE+-capable, the file does not include the **poe** stanza.

NOTE: All models have four uplink ports as listed below (ge-0/1/0 to ge-0/1/3 and xe-0/1/0 to xe-0/1/3). Uplink ports labeled 2 and 3 are configured as Virtual Chassis ports by default. You can configure these ports as network ports.

```
system {
    syslog {
        user * {
            any emergency;
        }
        file messages {
            any notice;
            authorization info;
        }
        file interactive-commands {
            interactive-commands any;
        }
    }
    commit {
        factory-settings {
            reset-chassis-lcd-menu;
            reset-virtual-chassis-configuration;
        }
    }
}
    interfaces {
        ge-0/0/0 {
            unit 0 {
                family ethernet-switching;
```


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```
    }
  }
  ge-0/0/1 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/2 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/3 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/4 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/5 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/6 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/7 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/8 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/9 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/10 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/11 {
    unit 0 {
      family ethernet-switching;
    }
```

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```
}
ge-0/0/12 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/13 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/14 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/15 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/16 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/17 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/18 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/19 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/20 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/21 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/22 {
    unit 0 {
        family ethernet-switching;
    }
}
```


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```
    ge-0/0/23 {
        unit 0 {
            family ethernet-switching;
        }
    }
    ge-0/1/0 {
        unit 0 {
            family ethernet-switching;
        }
    }
    xe-0/1/0 {
        unit 0 {
            family ethernet-switching;
        }
    }
    ge-0/1/1 {
        unit 0 {
            family ethernet-switching;
        }
    }
    xe-0/1/1 {
        unit 0 {
            family ethernet-switching;
        }
    }
    ge-0/1/2 {
        unit 0 {
            family ethernet-switching;
        }
    }
    xe-0/1/2 {
        unit 0 {
            family ethernet-switching;
        }
    }
    ge-0/1/3 {
        unit 0 {
            family ethernet-switching;
        }
    }
    xe-0/1/3 {
        unit 0 {
            family ethernet-switching;
        }
    }
}
protocols {
    igmp-snooping {
        vlan all;
    }
    rstp;
    lldp {
        interface all;
    }
    lldp-med {
        interface all;
```

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```
    }
  }
  ethernet-switching-options {
    storm-control {
      interface all;
    }
  }
  poe {
    interface all;
  }
```

Related Documentation

- Configuration Files Terms on page 13
- Connecting and Configuring an EX Series Switch (CLI Procedure)
- Understanding Configuration Files for EX Series Switches on page 7
- EX3300 Switches Hardware Overview

EX4200 Default Configuration

Each EX Series switch is programmed with a factory default configuration that contains the values set for each configuration parameter when a switch is shipped. The default configuration file sets values for system parameters such as **syslog** and **commit**; configures Power over Ethernet (PoE), storm control, and Ethernet switching on all interfaces; and enables the LLDP and RSTP protocols.

When you commit changes to the configuration, a new configuration file is created that becomes the active configuration. You can always revert to the factory default configuration. See "Reverting to the Default Factory Configuration for the EX Series Switch" on page 20.

The following factory default configuration file is for an EX4200 switch with 24 ports (for models that have more ports, this default configuration file has more interfaces):

NOTE: In this example, ge-0/0/0 through ge-0/0/23 are the network interface ports. Optional uplink modules provide either two 10-gigabit small form-factor pluggable (XFP) transceivers (xe-0/1/0 and xe-0/1/1) or four 1-gigabit SFP transceivers (ge-0/1/0 through ge-0/1/3). Although you can install only one uplink module, the interfaces for both are shown below.

```
system {
  syslog {
    user * {
      any emergency;
    }
    file messages {
      any notice;
      authorization info;
    }
    file interactive-commands {
      interactive-commands any;
```


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```
        }
    }
    commit {
        factory-settings {
            reset-chassis-lcd-menu;
            reset-virtual-chassis-configuration;
        }
    }
}
    interfaces {
        ge-0/0/0 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/1 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/2 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/3 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/4 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/5 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/6 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/7 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/8 {
            unit 0 {
                family ethernet-switching;
            }
        }
        ge-0/0/9 {
```

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```
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/10 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/11 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/12 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/13 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/14 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/15 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/16 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/17 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/18 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/19 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/20 {
    unit 0 {
```


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```
            family ethernet-switching;
        }
    }
    ge-0/0/21 {
        unit 0 {
            family ethernet-switching;
        }
    }
    ge-0/0/22 {
        unit 0 {
            family ethernet-switching;
        }
    }
    ge-0/0/23 {
        unit 0 {
            family ethernet-switching;
        }
    }
    xe-0/1/0 {
        unit 0 {
            family ethernet-switching;
        }
    }
    xe-0/1/1 {
        unit 0 {
            family ethernet-switching;
        }
    }
    ge-0/1/0 {
        unit 0 {
            family ethernet-switching;
        }
    }
    ge-0/1/1 {
        unit 0 {
            family ethernet-switching;
        }
    }
    ge-0/1/2 {
        unit 0 {
            family ethernet-switching;
        }
    }
    ge-0/1/3 {
        unit 0 {
            family ethernet-switching;
        }
    }
}
protocols {
    igmp-snooping{
        vlan all;
    }
    lldp {
        interface all;
    }
```

```
    lldp-med {
      interface all;
    }
    rstp;
  }
  ethernet-switching-options {
    storm-control {
      interface all;
    }
  }
  poe {
    interface all;
  }
```

Related Documentation

- Reverting to the Default Factory Configuration for the EX Series Switch on page 20
- Connecting and Configuring an EX Series Switch (CLI Procedure)
- Connecting and Configuring an EX Series Switch (J-Web Procedure)
- Understanding Configuration Files for EX Series Switches on page 7
- EX Series Switches Interfaces Overview

EX4500 Default Configuration

Each EX Series switch is programmed with a factory default configuration that contains the values set for each configuration parameter when a switch is shipped. The default configuration file sets values for system parameters such as **syslog** and **commit**, configures Ethernet switching on all interfaces, enables IGMP snooping, and enables the LLDP and RSTP protocols.

NOTE: Interfaces xe-0/0/0 through xe-0/0/39 are the network interface ports. Optional uplink modules provide four 10-gigabit small form-factor pluggable (SFP+) transceivers (xe-0/1/0 through xe-0/1/3) or four 1-gigabit small form-factor pluggable (SFP) transceivers (xe-0/2/0 through xe-0/2/3). Although you can install only one uplink module, the interfaces for both are shown below.

When you commit changes to the configuration, a new configuration file is created, which becomes the active configuration. You can always revert to the factory default configuration. See "Reverting to the Default Factory Configuration for the EX Series Switch" on page 20.

This topic shows the factory default configuration file of an EX4500 switch:

```
system {
  syslog {
    user * {
      any emergency;
    }
    file messages {
```


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```
        any notice;
        authorization info;
      }
      file interactive-commands {
        interactive-commands any;
      }
    }
    commit {
      factory-settings {
        reset-chassis-lcd-menu;
        reset-virtual-chassis-configuration;
      }
    }
}
    interfaces {
      xe-0/0/0 {
        unit 0 {
          family ethernet-switching;
        }
      }
      xe-0/0/1 {
        unit 0 {
          family ethernet-switching;
        }
      }
      xe-0/0/2 {
        unit 0 {
          family ethernet-switching;
        }
      }
      xe-0/0/3 {
        unit 0 {
          family ethernet-switching;
        }
      }
      xe-0/0/4 {
        unit 0 {
          family ethernet-switching;
        }
      }
      xe-0/0/5 {
        unit 0 {
          family ethernet-switching;
        }
      }
      xe-0/0/6 {
        unit 0 {
          family ethernet-switching;
        }
      }
      xe-0/0/7 {
        unit 0 {
          family ethernet-switching;
        }
      }
      xe-0/0/8 {
```

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```
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/9 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/10 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/11 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/12 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/13 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/14 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/15 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/16 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/17 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/18 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/19 {
    unit 0 {
```


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```
        family ethernet-switching;
    }
}
xe-0/0/20 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/21 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/22 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/23 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/24 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/25 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/26 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/27 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/28 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/29 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/30 {
    unit 0 {
        family ethernet-switching;
```

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```
    }
  }
  xe-0/0/31 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/32 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/33 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/34 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/35 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/36 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/37 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/38 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/39 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/1/0 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/1/1 {
    unit 0 {
      family ethernet-switching;
    }
```


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```
    }
    xe-0/1/2 {
      unit 0 {
        family ethernet-switching;
      }
    }
    xe-0/1/3 {
      unit 0 {
        family ethernet-switching;
      }
    }
    xe-0/2/0 {
      unit 0 {
        family ethernet-switching;
      }
    }
    xe-0/2/1 {
      unit 0 {
        family ethernet-switching;
      }
    }
    xe-0/2/2 {
      unit 0 {
        family ethernet-switching;
      }
    }
    xe-0/2/3 {
      unit 0 {
        family ethernet-switching;
      }
    }
  }
  protocols {
    igmp-snooping {
      vlan all;
    }
    rstp;
    lldp {
      interface all;
    }
    lldp-med {
      interface all;
    }
  }
  ethernet-switching-options {
    storm-control {
      interface all;
    }
  }
```

Related Documentation

- Reverting to the Default Factory Configuration for the EX Series Switch on page 20
- Connecting and Configuring an EX Series Switch (CLI Procedure)
- Connecting and Configuring an EX Series Switch (J-Web Procedure)
- Understanding Configuration Files for EX Series Switches on page 7

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- EX Series Switches Interfaces Overview

EX4550 Default Configuration

Each EX Series switch is programmed with a factory default configuration that contains the values set for each configuration parameter when the switch is shipped. The default configuration file sets values for system parameters such as **syslog** and **commit**, configures Ethernet switching on all interfaces, enables IGMP snooping, and enables the LLDP and RSTP protocols.

NOTE: Interfaces **ge-0/0/0** through **ge-0/0/31** or **xe-0/0/0** through **xe-0/0/31** are the network interface ports. Optional expansion modules (up to two) provide eight 1-gigabit or 10-gigabit small form-factor pluggable (SFP+) transceivers (**ge-0/1/0** through **ge-0/1/7** or **xe-0/1/0** through **xe-0/1/7** and **ge-0/2/0** through **ge-0/2/7** or **xe-0/2/0** through **xe-0/2/7**).

When you commit changes to the configuration, a new configuration file is created, which becomes the active configuration. You can always revert to the factory default configuration. See "Reverting to the Default Factory Configuration for the EX Series Switch" on page 20.

This topic shows the factory default configuration file of an EX4550 switch:

```
system {
    syslog {
        user * {
            any emergency;
        }
        file messages {
            any notice;
            authorization info;
        }
        file interactive-commands {
            interactive-commands any;
        }
    }
    commit {
        factory-settings {
            reset-chassis-lcd-menu;
            reset-virtual-chassis-configuration;
        }
    }
}
    interfaces {
        ge-0/0/0 {
            unit 0 {
                family ethernet-switching;
            }
        }
        xe-0/0/0 {
```


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```
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/1 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/1 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/2 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/2 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/3 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/3 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/4 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/4 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/5 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/5 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/6 {
    unit 0 {
```

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```
        family ethernet-switching;
    }
}
xe-0/0/6 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/7 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/7 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/8 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/8 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/9 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/9 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/10 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/10 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/11 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/11 {
    unit 0 {
        family ethernet-switching;
```


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```
    }
  }
  ge-0/0/12 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/12 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/13 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/13 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/14 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/14 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/15 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/15 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/16 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/0/16 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/0/17 {
    unit 0 {
      family ethernet-switching;
    }
```

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```
}
xe-0/0/17 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/18 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/18 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/19 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/19 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/20 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/20 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/21 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/21 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/22 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/22 {
    unit 0 {
        family ethernet-switching;
    }
}
```


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```
ge-0/0/23 {
  unit 0 {
    family ethernet-switching;
  }
}
xe-0/0/23 {
  unit 0 {
    family ethernet-switching;
  }
}
ge-0/0/24 {
  unit 0 {
    family ethernet-switching;
  }
}
xe-0/0/24 {
  unit 0 {
    family ethernet-switching;
  }
}
ge-0/0/25 {
  unit 0 {
    family ethernet-switching;
  }
}
xe-0/0/25 {
  unit 0 {
    family ethernet-switching;
  }
}
ge-0/0/26 {
  unit 0 {
    family ethernet-switching;
  }
}
xe-0/0/26 {
  unit 0 {
    family ethernet-switching;
  }
}
ge-0/0/27 {
  unit 0 {
    family ethernet-switching;
  }
}
xe-0/0/27 {
  unit 0 {
    family ethernet-switching;
  }
}
ge-0/0/28 {
  unit 0 {
    family ethernet-switching;
  }
}
xe-0/0/28 {
```

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```
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/29 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/29 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/30 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/30 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/0/31 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/0/31 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/1/0 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/1/0 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/1/1 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/1/1 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/1/2 {
    unit 0 {
```


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```
        family ethernet-switching;
    }
}
xe-0/1/2 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/1/3 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/1/3 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/1/4 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/1/4 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/1/5 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/1/5 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/1/6 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/1/6 {
    unit 0 {
        family ethernet-switching;
    }
}
ge-0/1/7 {
    unit 0 {
        family ethernet-switching;
    }
}
xe-0/1/7 {
    unit 0 {
        family ethernet-switching;
```

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```
    }
  }
  ge-0/2/0 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/2/0 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/2/1 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/2/1 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/2/2 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/2/2 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/2/3 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/2/3 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/2/4 {
    unit 0 {
      family ethernet-switching;
    }
  }
  xe-0/2/4 {
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-0/2/5 {
    unit 0 {
      family ethernet-switching;
    }
```


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```
    }
    xe-0/2/5 {
      unit 0 {
        family ethernet-switching;
      }
    }
    ge-0/2/6 {
      unit 0 {
        family ethernet-switching;
      }
    }
    xe-0/2/6 {
      unit 0 {
        family ethernet-switching;
      }
    }
    ge-0/2/7 {
      unit 0 {
        family ethernet-switching;
      }
    }
    xe-0/2/7 {
      unit 0 {
        family ethernet-switching;
      }
    }
  }
  protocols {
    igmp-snooping {
      vlan all;
    }
    rstp;
    lldp {
      interface all;
    }
    lldp-med {
      interface all;
    }
  }
  ethernet-switching-options {
    storm-control {
      interface all;
    }
  }
```

Related Documentation

- Reverting to the Default Factory Configuration for the EX Series Switch on page 20
- Connecting and Configuring an EX Series Switch (CLI Procedure)
- Connecting and Configuring an EX Series Switch (J-Web Procedure)
- Understanding Configuration Files for EX Series Switches on page 7
- EX Series Switches Interfaces Overview

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EX6200 Switch Default Configuration

Each EX6200 switch is programmed with a factory default configuration that contains the values set for each configuration parameter when a switch is shipped. The default configuration file sets values for system parameters such as the Address Resolution Protocol (ARP) aging timer, while also enabling the Link Layer Discovery Protocol (LLDP) protocol, the Rapid Spanning Tree Protocol (RSTP), Internet Group Management Protocol (IGMP) snooping, and storm control.

When you commit changes to the configuration, a new configuration file is created that becomes the active configuration. You can always revert to the factory default configuration. See "Reverting to the Default Factory Configuration for the EX Series Switch" on page 20.

This topic shows the factory default configuration file of an EX6200 switch:

```
protocols {
    lldp {
        interface all;
    }
    lldp-med {
        interface all;
    }
    igmp-snooping {
        vlan all;
    }
    rstp;
    }
    ethernet-switching-options {
        storm-control {
            interface all;
        }
    }
    poe {
        interface all;
    }
    system {
        arp {
            aging-timer 5;
        }
        commit {
            factory-settings {
                reset-chassis-lcd-menu;
            }
        }
    }
```

Related Documentation

- Configuration Files Terms on page 13
- Connecting and Configuring an EX Series Switch (CLI Procedure)
- Understanding Configuration Files for EX Series Switches on page 7
- EX6210 Switch Hardware Overview

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EX8200 Switch Default Configuration

Each EX8200 switch is programmed with a factory default configuration that contains the values set for each configuration parameter when a switch is shipped. The default configuration file sets values for system parameters such as the Address Resolution Protocol (ARP) aging timer, the system log, and file messages, while also enabling the Link Layer Discovery Protocol (LLDP) protocol, the Rapid Spanning Tree Protocol (RSTP), Internet Group Management Protocol (IGMP) snooping, and storm control.

When you commit changes to the configuration, a new configuration file is created that becomes the active configuration. You can always revert to the factory default configuration. See "Reverting to the Default Factory Configuration for the EX Series Switch" on page 20.

This topic shows the factory default configuration file of an EX8200 switch:

```
system {
    arp {
        aging-timer 5;
    }
    syslog {
        user * {
            any emergency;
        }
        file messages {
            any notice;
            authorization info;
        }
        file interactive-commands {
            interactive-commands any;
        }
    }
    commit {
        factory-settings {
            reset-chassis-lcd-menu;
        }
    }
}
    protocols {
        igmp-snooping {
            vlan all;
        }
        rstp;
        lldp {
            interface all;
        }
        lldp-med {
            interface all;
        }
    }
    ethernet-switching-options {
        storm-control {
            interface all;
```

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```
    }
  }
  poe {
    interface all;
  }
```

Related Documentation

- Configuration Files Terms on page 13
- Connecting and Configuring an EX Series Switch (CLI Procedure)
- Connecting and Configuring an EX Series Switch (J-Web Procedure)
- Understanding Configuration Files for EX Series Switches on page 7
- EX8208 Switch Hardware Overview
- EX8216 Switch Hardware Overview

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CHAPTER 5

Configuration Statements

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archival

Syntax

```
archival {
  configuration {
    archive-sites {
      file://<path>/<filename>;
      ftp://username@host:<port>url-path password password;
      http://username@host:<port>url-path password password;
      pasvftp://username@host:<port>url-path password password;
      scp://username@host:<port>url-path password password;
    }
    transfer-interval interval;
    transfer-on-commit;
  }
}
```

Hierarchy Level [edit system]

Release Information Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 9.0 for EX Series switches.
Statement introduced in Junos OS Release 11.1 for the QFX Series.

Description Configure copying of the currently active configuration to an archive site. An archive site can be a file, or an FTP or SCP location.

NOTE: The edit system archival hierarchy is not available on QFabric systems.

Options The remaining statements are explained separately.

NOTE: The [edit system archival] hierarchy is not available on QFabric systems.

Required Privilege Level admin—To view this statement in the configuration.
admin-control—To add this statement to the configuration.

Related Documentation

- Using Junos OS to Configure a Router or Switch to Transfer Its Configuration to an Archive Site

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archive-sites (Configuration File)

Syntax

```
archive-sites {
  file://<path>/<filename>;
  ftp://username@host:<port>url-path password password;
  http://username@host:<port>url-path password password;
  pasvftp://username@host:<port>url-path password password;
  scp://username@host:<port>url-path password password;
}
```

Hierarchy Level [edit system archival configuration]

Release Information Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 9.0 for EX Series switches.
Statement introduced in Junos OS Release 11.1 for the QFX Series.

Description Specify where to transfer the current configuration files. When specifying a URL in a Junos OS statement using an IPv6 host address, you must enclose the entire URL in quotation marks (" ") and enclose the IPv6 host address in brackets ([ ]). For example, **"scp://*username*<:*password*>@[*ipv6-host-address*]<:*port*>/*url-path*"**

If you specify more than one archive site, the router or switch attempts to transfer the configuration files to the first archive site in the list, moving to the next only if the transfer fails. The format for the destination filename is ***router-name*_juniper.conf[.gz]_*YYYYMMDD_HHMMSS***.

NOTE: The time included in the destination filename is always in Coordinated Universal Time (UTC) regardless of whether the time on the router or switch is configured as UTC or the local time zone. The default time zone on the router or switch is UTC.

NOTE: The **[edit system archival]** hierarchy is not available on QFabric systems.

Options The prefix used in the configuration statement determines the form of transfer:

file:// —transfer on a path to a named file

ftp:// —transfer using active FTP server

pasvftp:// —transfer to a device that only accepts passive FTP services

scp:// —transfer to a known host using background SCP file transfers

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Required Privilege Level

system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

Related Documentation

- Using Junos OS to Configure a Router or Switch to Transfer Its Configuration to an Archive Site
- configuration on page 71
- transfer-on-commit on page 75

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autoinstallation

Syntax

```
autoinstallation {
  configuration-servers {
    url;
  }
  interfaces {
    interface-name {
      bootp;
      rarp;
    }
  }
}
```

Hierarchy Level [edit system]

Release Information Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 9.1 for EX Series switches.
Statement introduced in Junos OS Release 12.2 for ACX Series Converged Access Gateway routers.

Description For ACX Series routers, J Series Services routers, and EX Series switches only. Download a configuration file automatically from an FTP, Hypertext Transfer Protocol (HTTP), or Trivial FTP (TFTP) server. When you power on a router or switch configured for autoinstallation, it requests an IP address from a Dynamic Host Configuration Protocol (DHCP) server. Once the router or switch has an address, it sends a request to a configuration server and downloads and installs a configuration.

Options The remaining statements are explained separately.

Required Privilege Level system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

Related Documentation

- ACX Series Autoinstallation Overview
- Before You Begin Autoinstallation on an ACX Series Universal Access Router
- Autoinstallation Configuration of ACX Series Universal Access Routers
- USB Autoinstallation on ACX Series Routers
- Verifying Autoinstallation on ACX Series Universal Access Routers
- show system autoinstallation status
- Upgrading Software Using Automatic Software Download on EX Series Switches
- *J Series Services Router Basic LAN and WAN Access Configuration Guide*
- configuration-servers on page 72
- idle-timeout

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commit synchronize

Syntax commit synchronize;

Hierarchy Level [edit system]

Release Information Statement introduced in Junos OS Release 7.4.
Statement introduced in Junos OS Release 10.4 for EX Series switches.

Description For devices with multiple Routing Engines only. Configure the **commit** command to automatically result in a **commit synchronize** action between dual Routing Engines within the same chassis. The Routing Engine on which you execute the **commit** command (the requesting Routing Engine) copies and loads its candidate configuration to the other (the responding) Routing Engine. Each Routing Engine then performs a syntax check on the candidate configuration file being committed. If no errors are found, the configuration is activated and becomes the current operational configuration on both Routing Engines.

NOTE: **When you configure nonstop active routing (NSR), you must include the commit synchronize statement. Otherwise, the commit operation fails.**

On the TX Matrix router, synchronization only occurs between the Routing Engines within the same chassis and when synchronization is complete, the new configuration is then distributed to the Routing Engines on the T640 routers. That is, the master Routing Engine on the TX Matrix router distributes the configuration to the master Routing Engine on each T640 router. Likewise, the backup Routing Engine on the TX Matrix router distributes the configuration to the backup Routing Engine on each T640 router.

In EX Series Virtual Chassis configurations:

- On EX4200 switches in Virtual Chassis, synchronization occurs between the switch in the master role and the switch in the backup role.
- On EX8200 switches in a Virtual Chassis, synchronization occurs only between the master and backup XRE200 External Routing Engines.

Options

and-quit—(Optional) (EX Series only) Quit configuration mode if the commit synchronization succeeds.

comment—(Optional) (EX Series only) Write a message to the commit log.

and-force—(Optional) (EX Series only) Force a commit synchronization on the other Routing Engine (ignore warnings).

Required Privilege Level system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

Related Documentation

- Synchronizing the Routing Engine Configuration

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- Configuring Multiple Routing Engines to Synchronize Committed Configurations Automatically

configuration

Syntax

```
configuration {
  transfer-interval interval;
  transfer-on-commit;
  archive-sites {
    file://<path>/<filename>;
    ftp://username@host:<port>url-path password password;
    http://username@host:<port>url-path password password;
    pasvftp://username@host:<port>url-path password password;
    scp://username@host:<port>url-path password password;
  }
}
```

Hierarchy Level [edit system archival]

Release Information Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 9.0 for EX Series switches.
Statement introduced in Junos OS Release 11.1 for the QFX Series.

Description Configure the router or switch to periodically transfer its currently active configuration (or after each commit).

NOTE: The **[edit system archival]** hierarchy is not available on QFabric systems.

Options The remaining statements are explained separately.

Required Privilege Level system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

Related Documentation

- Using Junos OS to Configure a Router or Switch to Transfer Its Configuration to an Archive Site
- archive
- archive-sites on page 67
- transfer-interval on page 74
- transfer-on-commit on page 75

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configuration-servers

Syntax

```
configuration-servers {
  url;
}
```

Hierarchy Level [edit system autoinstallation]

Release Information Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 9.0 for EX Series switches.

Description For J Series Services Routers and EX Series switches only, configure the URL address of a server from which to obtain configuration files. Examples of URLs:

tftp://*hostname/path/filename*

ftp://*username:prompt@ftp.hostname.net/filename /*

Required Privilege Level system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

Related Documentation

- Upgrading Software Using Automatic Software Download on EX Series Switches
- Getting Started Guide for your router model
- autoinstallation on page 69
- idle-timeout

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interfaces

Syntax

```
interfaces {
  interface-name {
    bootp;
    rarp;
    slarp;
  }
}
```

Hierarchy Level [edit system autoinstallation]

Release Information Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 9.0 for EX Series switches.

Description For J Series Services Routers and EX Series switches only. Configure the interface on which to perform autoinstallation. A request for an IP address is sent from the interface. Specify the IP address procurement protocol.

Options

bootp—Send requests over serial interfaces with Frame Relay.

rarp—Send requests over Ethernet interfaces.

slarp—(On J Series Services Routers only) Send requests over serial interfaces with HDLC.

Required Privilege Level

system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

Related Documentation

- Upgrading Software Using Automatic Software Download on EX Series Switches
- *J Series Services Router Basic LAN and WAN Access Configuration Guide*
- autoinstallation on page 69

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transfer-interval (Configuration)

Syntax transfer-interval *interval*;

Hierarchy Level [edit system archival configuration]

Release Information Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 9.0 for EX Series switches.
Statement introduced in Junos OS Release 11.1 for the QFX Series.

Description Configure the router or switch to periodically transfer its currently active configuration to an archive site.

NOTE: The **edit system archival** hierarchy is not available on QFabric systems.

Options ***interval***—Interval at which to transfer the current configuration to an archive site.
Range: 15 through **2880** minutes

NOTE: The **[edit system archival]** hierarchy is not available on QFabric systems.

Required Privilege Level system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

Related Documentation

- Using Junos OS to Configure a Router or Switch to Transfer Its Configuration to an Archive Site
- archive
- configuration on page 71
- transfer-on-commit on page 75

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transfer-on-commit

Syntax transfer-on-commit;

Hierarchy Level [edit system archival configuration]

Release Information Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 9.0 for EX Series switches.
Statement introduced in Junos OS Release 11.1 for the QFX Series.

Description Configure the router or switch to transfer its currently active configuration to an archive site each time you commit a candidate configuration.

NOTE: When specifying a URL in a Junos OS statement using an IPv6 host address, you must enclose the entire URL in quotation marks (" ") and enclose the IPv6 host address in brackets ([ ]). For example, "ftp:*//username*<:*password*>@[*ipv6-host-address*]<:*port*>*/url-path*" .

NOTE: The **[edit system archival]** hierarchy is not available on QFabric systems.

Required Privilege Level system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

Related Documentation

- Using Junos OS to Configure a Router or Switch to Transfer Its Configuration to an Archive Site
- archive
- configuration on page 71
- transfer-interval on page 74

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PART 3

Administration

- Routine Monitoring on page 79
- Operational Commands on page 83

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CHAPTER 6

Routine Monitoring

- Managing Configuration Files Through the Configuration History (J-Web Procedure) on page 79
- Verifying Autoinstallation Status on an EX Series Switch on page 82

Managing Configuration Files Through the Configuration History (J-Web Procedure)

Use the Configuration History function to manage configuration files.

1. Displaying Configuration History on page 79
2. Displaying Users Editing the Configuration on page 80
3. Comparing Configuration Files with the J-Web Interface on page 81
4. Downloading a Configuration File with the J-Web Interface on page 81
5. Loading a Previous Configuration File with the J-Web Interface on page 81

Displaying Configuration History

To manage configuration files with the J-Web interface, select **Maintain** > **Config Management** > **History**. The main pane displays History — Database Information page.

Table 11 on page 79 summarizes the contents of the display.

The configuration history display allows you to:

- View a configuration.
- Compare two configurations.
- Download a configuration file to your local system.
- Roll back the configuration to any of the previous versions stored on the switch.

Table 11: J-Web Configuration History Summary

Field	Description
Number	Version of the configuration file.
Date/Time	Date and time the configuration was committed.

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Table 11: J-Web Configuration History Summary *(continued)*

Field	Description
User	Name of the user who committed the configuration.
Client	Method by which the configuration was committed: • **cli**—A user entered a Junos OS CLI command. • **junoscript**—A Junos XML protocol client performed the operation. Commit operations performed by users through the J-Web interface are identified in this way. • **snmp**—An SNMP **set** request started the operation. • **other**—Another method was used to commit the configuration.
Comment	Comment.
Log Message	Method used to edit the configuration: • Imported via paste— Configuration was edited and loaded with the **Configure** > **CLI Tools** > **Edit Configuration Text** option. • Imported upload [*filename*]—Configuration was uploaded with the **Configure** > **CLI Tools** > **Point Click Editor** option. • Modified via J–Web Configure — Configuration was modified with the J-Web Configure menu. • Rolled back via *user-interface*— Configuration was rolled back to a previous version through the user interface specified by *user-interface*, which can be Web Interface or CLI.
Action	Action to perform with the configuration file. The action can be **Download** or **Rollback**.

Displaying Users Editing the Configuration

To display a list of users editing the switching platform configuration, select **Config Management** > **History**. The list is displayed as Database Information in the main pane. Table 12 on page 80 summarizes the Database Information display.

Table 12: J-Web Configuration Database Information Summary

Field	Description
User Name	Name of user editing the configuration.
Start Time	Time of day the user logged in to the switch.
Idle Time	Elapsed time since the user issued a configuration command from the CLI.
Terminal	Terminal on which the user is logged in.
PID	Process identifier assigned to the user by the switching platform.
Edit Flags	Designates a private or exclusive edit.
Edit Path	Level of the configuration hierarchy that the user is editing.

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Comparing Configuration Files with the J-Web Interface

To compare any two of the past 50 committed configuration files:

1. Select **Config Management** > **History**. A list of the current and the previous 49 configurations is displayed as Configuration History in the main pane.
2. Select the check boxes to the left of the two configuration versions you want to compare.
3. Click **Compare**.

   The main pane displays the differences between the two configuration files at each hierarchy level as follows:

   - Lines that have changed are highlighted side by side in green.
   - Lines that exist only in the more recent configuration file are displayed in red on the left.
   - Lines that exist only in the older configuration file are displayed in blue on the right.

Downloading a Configuration File with the J-Web Interface

To download a configuration file from the switch to your local system:

1. Select **Config Management** > **History**. A list of current and previous 49 configurations is displayed as Configuration History in the main pane.
2. In the Action column, click **Download** for the version of the configuration you want to download.
3. Select the options your Web browser provides that allow you to save the configuration file to a target directory on your local system.

   The file is saved as an ASCII file.

Loading a Previous Configuration File with the J-Web Interface

To load (roll back) and commit a previous configuration file stored on the switching platform:

1. Select **Config Management** > **History**. A list of current and previous 49 configurations is displayed as Configuration History in the main pane.
2. In the Action column, click **Rollback** for the version of the configuration you want to load.

   The main pane displays the results of the rollback operation.

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NOTE: When you click **Rollback**, the switch loads and commits the selected configuration. This behavior is different from the switch's behavior that occurs after you enter the **rollback** configuration mode command from the CLI. In the latter case, the configuration is loaded but not committed.

Related Documentation

- Loading a Previous Configuration File (CLI Procedure) on page 19
- Understanding Configuration Files for EX Series Switches on page 7
- Understanding J-Web Configuration Tools

Verifying Autoinstallation Status on an EX Series Switch

Purpose Display the status of the autoinstallation feature on an EX Series switch.

Action From the CLI, enter the **show system autoinstallation status** command.

Sample Output

```
user@switch> show system autoinstallation status
Autoinstallation status:
Master state: Active
Last committed file: None
Configuration server of last committed file: 10.25.100.1
Interface:
  Name: ge-0/0/0
  State: Configuration Acquisition
  Acquired:
    Address: 192.168.124.75
    Hostname: host-ge-000
    Hostname source: DNS
    Configuration filename: switch-ge-000.conf
    Configuration filename server: 10.25.100.3
  Address acquisition:
    Protocol: DHCP Client
    Acquired address: None
    Protocol: RARP Client
    Acquired address: None
Interface:
  Name: ge-0/0/1
  State: None
  Address acquisition:
    Protocol: DHCP Client
    Acquired address: None
    Protocol: RARP Client
    Acquired address: None
```

Meaning The output shows the settings configured for autoinstallation. Verify that the values displayed are correct for the switch when it is deployed on the network.

Related Documentation

- Configuring Autoinstallation of Configuration Files (CLI Procedure) on page 25

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CHAPTER 7

Operational Commands

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clear log

Syntax clear log *filename*
<all>

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Remove contents of a log file.

Options ***filename***—Name of the specific log file to delete.

all—(Optional) Delete the specified log file and all archived versions of it.

Required Privilege Level clear

Related Documentation
- show log

List of Sample Output clear log on page 84

Output Fields See file list for an explanation of output fields.

Sample Output

clear log The following sample commands list log file information, clear the contents of a log file, and then display the updated log file information:

```
user@host> file list lcc0-re0:/var/log/sampled detail
lcc0-re0:
--------------------------------------------------------------------------
-rw-r-----  1 root  wheel      26450 Jun 23 18:47 /var/log/sampled
total 1

user@host> clear log lcc0-re0:sampled
lcc0-re0:
--------------------------------------------------------------------------

user@host> file list lcc0-re0:/var/log/sampled detail
lcc0-re0:
--------------------------------------------------------------------------
-rw-r-----  1 root  wheel         57 Sep 15 03:44 /var/log/sampled
total 1
```

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clear system commit

Syntax clear system commit

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Clear any pending commit operation.

Options This command has no options.

Required Privilege Level maintenance (or the actual user who scheduled the commit)

Related Documentation
- show system commit on page 116

List of Sample Output
clear system commit on page 85
clear system commit (None Pending) on page 85
clear system commit (User Does Not Have Required Privilege Level) on page 85

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

clear system commit

```
user@host> clear system commit
Pending commit cleared.
```

clear system commit (None Pending)

```
user@host> clear system commit
No commit scheduled.
```

clear system commit (User Does Not Have Required Privilege Level)

```
user@host> clear system commit
error: Permission denied
```

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file archive

Syntax file archive destination *destination* source *source* <compress>

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Archive, and optionally compress, one or multiple local system files as a single file, locally or at a remote location.

Options

destination *destination*—Destination of the archived file or files. Specify the destination as a URL or filename. The Junos OS adds one of the following suffixes if the destination filename does not already have it:

- For archived files—The suffix **.tar**
- For archived and compressed files—The suffix **.tgz**

source *source*—Source of the original file or files. Specify the source as a URL or filename.

compress—(Optional) Compress the archived file with the GNU zip (gzip) compression utility. The compressed files have the suffix **.tgz**.

Required Privilege Level maintenance

List of Sample Output
file archive (Multiple Files) on page 86
file archive (Single File) on page 86
file archive (with Compression) on page 86

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

file archive (Multiple Files) The following sample command archives all message files in the local directory **/var/log/messages** as the single file **messages-archive.tar**.

```
user@host> file archive source /var/log/messages* destination /var/log/messages-archive.tar
/usr/bin/tar: Removing leading / from absolute path names in the archive.

user@host>
```

file archive (Single File) The following sample command archives one message file in the local directory **/var/log/messages** as the single file **messages-archive.tar**.

```
user@host> file archive source /var/log/messages destination /var/log/messages-archive.tar
/usr/bin/tar: Removing leading / from absolute path names in the archive.
user@host
```

file archive (with Compression) The following sample command archives and compresses all message files in the local directory **/var/log/messages** as the single file **messages-archive.tgz**.

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```
user@host> file archive compress source /var/log/messages* destination
/var/log/messages-archive.tgz
/usr/bin/tar: Removing leading / from absolute path names in the archive.
```

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file checksum md5

Syntax file checksum md5 <*pathname*> *filename*

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Calculate the Message Digest 5 (MD5) checksum of a file.

Options ***pathname***—(Optional) Path to a filename.

filename—Name of a local file for which to calculate the MD5 checksum.

Required Privilege Level maintenance

Related Documentation

- Configuring Checksum Hashes for a Commit Script in the *Junos OS Configuration and Operations Automation Guide*
- Configuring Checksum Hashes for an Event Script in the *Junos OS Configuration and Operations Automation Guide*
- Configuring Checksum Hashes for an Op Script in the *Junos OS Configuration and Operations Automation Guide*
- Executing an Op Script from a Remote Site in the *Junos OS Configuration and Operations Automation Guide*
- file checksum sha-256 on page 90
- file checksum sha1 on page 89
- op

List of Sample Output file checksum md5 on page 88

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

file checksum md5

```
user@host> file checksum md5 jbundle-5.3R2.4-export-signed.tgz
MD5 (jbundle-5.3R2.4-export-signed.tgz) = 2a3b69e43f9bd4893729cc16f505a0f5
```

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file checksum sha1

Syntax file checksum sha1 <*pathname*> *filename*

Release Information Command introduced in Junos OS Release 9.5.
Command introduced in Junos OS Release 9.5 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Calculate the Secure Hash Algorithm (SHA-1) checksum of a file.

Options ***pathname***—(Optional) Path to a filename.

filename—Name of a local file for which to calculate the SHA-1 checksum.

Required Privilege Level maintenance

Related Documentation

- Configuring Checksum Hashes for a Commit Script in the *Junos OS Configuration and Operations Automation Guide*
- Configuring Checksum Hashes for an Event Script in the *Junos OS Configuration and Operations Automation Guide*
- Configuring Checksum Hashes for an Op Script in the *Junos OS Configuration and Operations Automation Guide*
- Executing an Op Script from a Remote Site in the *Junos OS Configuration and Operations Automation Guide*
- file checksum md5 on page 88
- file checksum sha-256 on page 90
- op

List of Sample Output file checksum sha1 on page 89

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

file checksum sha1

```
user@host> file checksum sha1 /var/db/scripts/opscript.slax

SHA1 (/var/db/scripts/commitscript.slax) = ba9e47120c7ce55cff29afd73eacd370e162c676
```

file checksum sha-256

Syntax file checksum sha-256 <*pathname*> *filename*

Release Information Command introduced in Junos OS Release 9.5.
Command introduced in Junos OS Release 9.5 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Calculate the Secure Hash Algorithm 2 family (SHA-256) checksum of a file.

Options ***pathname***—(Optional) Path to a filename.

filename—Name of a local file for which to calculate the SHA-256 checksum.

Required Privilege Level maintenance

Related Documentation

- Configuring Checksum Hashes for a Commit Script in the *Junos OS Configuration and Operations Automation Guide*
- Configuring Checksum Hashes for an Event Script in the *Junos OS Configuration and Operations Automation Guide*
- Configuring Checksum Hashes for an Op Script in the *Junos OS Configuration and Operations Automation Guide*
- Executing an Op Script from a Remote Site in the *Junos OS Configuration and Operations Automation Guide*
- file checksum md5 on page 88
- file checksum sha1 on page 89
- op

List of Sample Output file checksum sha-256 on page 90

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

file checksum sha-256

```
user@host> file checksum sha-256 /var/db/scripts/commitscript.slax

SHA256 (/var/db/scripts/commitscript.slax) =
94c2b061fb55399e15babd2529453815601a602b5c98e5c12ed929c9d343dd71
```

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file compare

Syntax

file compare (files *filename filename*)
<context | unified>
<ignore-white-space>

Release Information

Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description

Compare two local files and describe the differences between them in default, context, or unified output styles:

- **Default**—In the first line of output, **c** means lines were changed between the two files, **d** means lines were deleted between the two files, and **a** means lines were added between the two files. The numbers preceding this alphabetical marker represent the first file, and the lines after the alphabetical marker represent the second file. A left angle bracket (**<**) in front of output lines refers to the first file. A right angle bracket (**>**) in front of output lines refers to the second file.
- **Context**—The display is divided into two parts. The first part is the first file; the second part is the second file. Output lines preceded by an exclamation point (**!**) have changed. Additions are marked with a plus sign (**+**), and deletions are marked with a minus sign (**-**).
- **Unified**—The display is preceded by the line number from the first and the second file (*xx*,*xxx*,*x*). Before the line number, additions to the file are marked with a plus sign (**+**), and deletions to the file are marked with a minus sign (**-**). The body of the output contains the affected lines. Changes are viewed as additions plus deletions.

Options

files *filename*—Names of two local files to compare.

context—(Optional) Display output in context format.

ignore-white-space—(Optional) Ignore changes in the amount of white space.

unified—(Optional) Display output in unified format.

Required Privilege Level

none

List of Sample Output

file compare files on page 92
file compare files context on page 92
file compare files unified on page 92
file compare files unified ignore-white-space on page 92

Output Fields

When you enter this command, you are provided feedback on the status of your request.

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Sample Output

file compare files

```
user@host> file compare files /tmp/one /tmp/two
100c100
<             full-name "File 1";
---
>             full-name "File 2";
102c102
<             class foo; # 'foo' is not defined
---
>             class super-user;
```

file compare files context

```
user@host> file compare files /tmp/one /tmp/two context
*** /tmp/one    Wed Dec  3 17:12:50 2003
--- /tmp/two    Wed Dec  3 09:13:14 2003
***************
*** 97,104 ****
                }
            }
            user bill {
!               full-name "Bill Smith";
!               class foo; # 'foo' is not defined
                authentication {
                    encrypted-password SECRET;
                }
--- 97,105 ----
                }
            }
            user bill {
!               full-name "Bill Smith";
!               uid 1089;
!               class super-user;
                authentication {
                    encrypted-password SECRET;
                }
```

file compare files unified

```
user@host> file compare files /tmp/one /tmp/two unified
--- /tmp/one    Wed Dec  3 17:12:50 2003
+++ /tmp/two    Wed Dec  3 09:13:14 2003
@@ -97,8 +97,9 @@
                }
            }
            user bill {
-               full-name "Bill Smith";
-               class foo; # 'foo' is not defined
+               full-name "Bill Smith";
+               uid 1089;
+               class super-user;
                authentication {
                    encrypted-passwordSECRET;
                }
```

file compare files unified ignore-white-space

```
user@host> file compare files /tmp/one /tmp/two unified ignore-white-space
--- /tmp/one    Wed Dec  3 09:13:10 2003
+++ /tmp/two    Wed Dec  3 09:13:14 2003
@@ -99,7 +99,7 @@
            user bill {
                full-name "Bill Smith";
                uid 1089;
```


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```
-            class foo; # 'foo' is not defined
+            class super-user;
             authentication {
                  encrypted-password <SECRET>; # SECRET-DATA
             }
```

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file copy

Syntax file copy *source destination*
<source-address *address*>

Release Information Command introduced before Junos OS Release 7.4.
source-address option added in Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for QFX Series switches.

Description Copy files from one place to another on the local router or switch or between the local router or switch and a remote system.

Options ***source***—Source of the original file. Specify this as a URL or filename.

destination—Destination of the copied file. Specify this as a URL or filename. If you are copying a file to the current directory (your home directory on the local router or switch) and are not renaming the file, specify the destination with a period (.).

source-address ***address***—(Optional) Source IP host address. This option is useful for specifying the source address of a secure copy (scp) file transfer.

Required Privilege Level maintenance

List of Sample Output
file copy (A File from the Router or Switch to a PC) on page 94
file copy (A Configuration File Between Routing Engines) on page 94
file copy (A Log File Between Routing Engines) on page 94
file copy (A File from the TX Matrix Plus Router to a T1600 Router Connected to the TX Matrix Plus Router) on page 94

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

file copy (A File from the Router or Switch to a PC)

```
user@host> file copy /var/tmp/rpd.core.4 berry:/c/junipero/tmp

...transferring.file..... |          0 KB |   0.3 kB/s | ETA: 00:00:00 | 100%
```

file copy (A Configuration File Between Routing Engines) The following sample command copies a configuration file from Routing Engine 0 to Routing Engine 1:

```
user@host>  file copy /config/juniper.conf re1:/var/tmp/copied-juniper.conf
```

file copy (A Log File Between Routing Engines) The following sample command copies a log file from Routing Engine 0 to Routing Engine 1:

```
user@host> file copy lcc0-re0:/var/log/chassisd lcc0-re1:/var/tmp
```

file copy (A File from the TX Matrix Plus Router to a T1600 The following sample command copies a text file from Routing Engine 1 on the switch-fabric chassis **sfc0** to Routing Engine 1 on the line-card chassis **lcc0**:

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Router Connected to the TX Matrix Plus Router)

```
user@host> file copy sfc0-re1:/tmp/sample.txt lcc0-re1:/var/tmp
```

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file delete

Syntax
file delete *filename*
<purge>

Release Information
Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description
Delete a file on the local router or switch.

Options
filename—Name of the file to delete. For a routing matrix, include chassis information in the filename if the file to be deleted is not local to the Routing Engine from which the command is issued.

purge—(Optional) Overwrite regular files before deleting them.

Required Privilege Level
maintenance

List of Sample Output
file delete on page 96
file delete (Routing Matrix) on page 96

Output Fields
When you enter this command, you are provided feedback on the status of your request.

Sample Output

file delete

```
user@host> file list /var/tmp
dcd.core
rpd.core
snmpd.core

user@host> file delete /var/tmp/snmpd.core
user@host> file list /var/tmp
dcd.core
rpd.core
```

file delete (Routing Matrix)

```
user@host> file list lcc0-re0:/var/tmp
dcd.core
rpd.core
snmpd.core

user@host> file delete lcc0-re0:/var/tmp/snmpd.core
user@host> file list /var/tmp
dcd.core
rpd.core
```


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file list

Syntax
file list
<detail | recursive>
<*filename*>

Release Information
Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description
Display a list of files on the local router or switch.

Options
none—Display a list of all files for the current directory.

detail | recursive—(Optional) Display detailed output or descend recursively through the directory hierarchy, respectively.

filename—(Optional) Display a list of files. For a routing matrix, the filename must include the chassis information.

Additional Information
The default directory is the home directory of the user logged in to the router or switch. To view available directories, enter a space and then a backslash (/) after the **file list** command. To view files within a specific directory, include a backslash followed by the directory and, optionally, subdirectory name after the **file list** command.

Required Privilege Level
maintenance

List of Sample Output
file list on page 97
file list (Routing Matrix) on page 97

Output Fields
When you enter this command, you are provided feedback on the status of your request.

Sample Output

file list

```
user@host> file list /var/tmp
dcd.core
rpd.core
snmpd.core
```

file list (Routing Matrix)

```
user@host> file list lcc0-re0:var/tmp
lcc0-re0:
--------------------------------------------------------------------------
/var/tmp/:
.gdbinit
.pccardd
Test/
chassisd*
chassisd.nathan*
check_time*
cores/
diagTestPrep*
diagtest*
```

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```
diagtest.regress*
do_switchovers*
dump_test*
err.manoj.log
esw_clearstats*
esw_counter*
esw_debug*
esw_debug_ge*
esw_filt_test*
esw_filter_tnp_addr*
esw_getstats*
esw_phy*
esw_stats*
```


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file rename

Syntax file rename *source destination*

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Rename a file on the local router or switch.

Options ***destination***—New name for the file.

source—Original name of the file. For a routing matrix, the filename must include the chassis information.

Required Privilege Level maintenance

List of Sample Output file rename on page 99
file rename (Routing Matrix) on page 99

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

file rename The following example lists the files in **/var/tmp**, renames one of the files, and then displays the list of files again to reveal the newly named file.

```
user@host> file list /var/tmp
dcd.core
rpd.core
snmpd.core

user@host> file rename /var/tmp/dcd.core /var/tmp/dcd.core.990413
user@host> file list /var/tmp
dcd.core.990413
rpd.core
snmpd.core
```

file rename (Routing Matrix) The following example lists the files in **/var/tmp**, renames one of the files, and then displays the list of files again to reveal the newly named file.

```
user@host> file list lcc0-re1:/var/tmp
lcc0-re1:
--------------------------------------------------------------------------

/var/tmp:
.pccardd
sartre.conf
snmpd
syslogd.core-tarball.0.tgz

user@host> file rename lcc0-re0:/var/tmp/snmpd /var/tmp/snmpd.rr
user@host> file list lcc0-re1:/var/tmp
```

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```
lcc0-re1:
--------------------------------------------------------------------------

/var/tmp:
.pccardd
sartre.conf
snmpd.rr
syslogd.core-tarball.0.tgz
```


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file show

Syntax file show *filename*
<encoding (base64 | raw)>

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Display the contents of a file.

Options ***filename***—Name of a file. For a routing matrix, the filename must include the chassis information.

encoding (base64 | raw)—(Optional) Encode file contents with base64 encoding or show raw text.

Required Privilege Level maintenance

List of Sample Output
file show on page 101
file show (Routing Matrix) on page 101

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

file show

```
user@host> file show /var/log/messages
Apr 13 21:00:08 romney /kernel: so-1/1/2: loopback suspected; going to standby.
Apr 13 21:00:40 romney /kernel: so-1/1/2: loopback suspected; going to standby.
Apr 13 21:02:48 romney last message repeated 4 times
Apr 13 21:07:04 romney last message repeated 8 times
Apr 13 21:07:13 romney /kernel: so-1/1/0: Clearing SONET alarm(s) RDI-P
Apr 13 21:07:29 romney /kernel: so-1/1/0: Asserting SONET alarm(s) RDI-P
...
```

file show (Routing Matrix)

```
user@host> file show lcc0-re0:/var/tmp/.gdbinit
lcc0-re0:
--------------------------------------------------------------------------
######################################################################
# Settings
######################################################################

set print pretty

######################################################################
# Basic stuff
######################################################################

define msgbuf
        printf "%s", msgbufp->msg_ptr
end
# hex dump of a block of memory
# usage: dump address length
define dump
```

```
    p $arg0, $arg1
    set $ch = $arg0
    set $j = 0
    set $n = $arg1
    while ($j < $n)
         #printf "%x %x ",&$ch[$j],$ch[$j]
         printf "%x ",$ch[$j]
         set $j = $j + 1
         if (!($j % 16))
                 printf "\n"
         end
    end
end
```


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request system configuration rescue delete

Syntax request system configuration rescue delete

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Delete an existing rescue configuration.

NOTE: The **[edit system configuration]** hierarchy is not available on QFabric systems.

Options This command has no options.

Required Privilege Level maintenance

Related Documentation

- request system configuration rescue save on page 104
- request system software rollback
- show system commit on page 116

List of Sample Output request system configuration rescue delete on page 103

Output Fields This command produces no output.

Sample Output

request system configuration rescue delete

```
user@host> request system configuration rescue delete
```

request system configuration rescue save

Syntax request system configuration rescue save

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Save the most recently committed configuration as the rescue configuration so that you can return to it at any time by using the **rollback** command.

NOTE: The **[edit system configuration]** hierarchy is not available on QFabric systems.

Options This command has no options.

Required Privilege Level maintenance

Related Documentation

- request system software delete
- request system software rollback
- show system commit on page 116

List of Sample Output request system configuration rescue save on page 104

Output Fields This command produces no output.

Sample Output

request system configuration rescue save

```
user@host> request system configuration rescue save
```


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request system scripts refresh-from commit

Syntax **request system scripts refresh-from commit file *file-name* url *url-path***

Release Information Command introduced in Junos OS Release 10.1 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Automatically download the initial Junos OS configuration and a set of standard commit scripts during a Junos XML management protocol/NETCONF session when a switch is brought up for the first time.

The Junos XML management protocol equivalent for this operational mode command is:

```
<request-script-refresh-from>
   <type>commit</type>
   <file>file-name></file>
   <URL>URL</URL>
</request-script-refresh-from>
```

Options **file *file-name***—Name of the file to be downloaded.

url *url-path*—URL of the file to be downloaded.

Required Privilege Level maintenance

Related Documentation

- Understanding Automatic Refreshing of Scripts on EX Series Switches on page 10
- *Junos OS Junos XML Management Protocol Guide*
- *Junos OS NETCONF XML Management Protocol Guide*

List of Sample Output request system scripts refresh-from commit file config.txt url http://host1.juniper.net on page 105

Sample Output

request system scripts refresh-from commit file config.txt url http://host1.juniper.net

```
user@switch> request system scripts refresh-from commit file config.txt url
http://host1.juniper.net
user@switch>
```

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request system scripts refresh-from event

Syntax **request system scripts refresh-from event file *file-name* url *url-path***

Release Information Command introduced in Junos OS Release 10.1 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Automatically download the initial Junos OS configuration and a set of standard event scripts during a Junos XML management protocol/NETCONF session when a switch is brought up for the first time.

The Junos XML management protocol equivalent for this operational mode command is:

```
<request-script-refresh-from>
   <type>event</type>
   <file>file-name></file>
   <URL>URL</URL>
</request-script-refresh-from>
```

Options **file *file-name***—Name of the file to be downloaded.

url *url-path*—URL of the file to be downloaded.

Required Privilege Level maintenance

Related Documentation

- Understanding Automatic Refreshing of Scripts on EX Series Switches on page 10
- *Junos OS Junos XML Management Protocol Guide*
- *Junos OS NETCONF XML Management Protocol Guide*

List of Sample Output request system scripts refresh-from event file config.txt url http://host1.juniper.net on page 106

Sample Output

request system scripts refresh-from event file config.txt url http://host1.juniper.net

```
user@switch> request system scripts refresh-from event file config.txt url http://host1.juniper.net
user@switch>
```


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request system scripts refresh-from op

Syntax **request system scripts refresh-from op file *file-name* url *url-path***

Release Information Command introduced in Junos OS Release 10.1 for EX Series switches.

Description Automatically download the initial Junos OS configuration and a set of standard op scripts during a Junos XML management protocol/NETCONF session when a switch is brought up for the first time.

The Junos XML management protocol equivalent for this operational mode command is:

```
<request-script-refresh-from>
   <type>op</type>
   <file>file-name></file>
   <URL>URL</URL>
</request-script-refresh-from>
```

Options **file *file-name***—Name of the file to be downloaded.

url *url-path*—URL of the file to be downloaded.

Required Privilege Level maintenance

Related Documentation

- Understanding Automatic Refreshing of Scripts on EX Series Switches on page 10
- *Junos OS Junos XML Management Protocol Guide*
- *Junos OS NETCONF XML Management Protocol Guide*

List of Sample Output request system scripts refresh-from op file config.txt url http://host1.juniper.net on page 107

Sample Output

request system scripts refresh-from op file config.txt url http://host1.juniper.net

```
user@switch> request system scripts refresh-from op file config.txt url http://host1.juniper.net
user@switch>
```

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request system zeroize

Syntax

request system zeroize
<media>

Release Information

Command introduced in Junos OS Release 11.2 for EX Series switches.
Option **media** added in Junos OS Release 11.4 for EX Series switches.
Command introduced in Junos OS Release 12.2 for ACX Series Universal Access Routers.

Description

Remove all configuration information on the Routing Engines and reset all key values. The command removes all data files, including customized configuration and log files, by unlinking the files from their directories.

To completely erase user-created data so that it is unrecoverable, use the **media** option.

CAUTION: **Before issuing this command, use the request system snapshot command to back up the files currently used to run the switch to a secondary device.**

This command reboots the switch and sets it to the factory default configuration. After the reboot, you cannot access the switch through the management Ethernet interface. Log in through the console as **root** and start the Junos OS command-line interface (CLI) by typing **cli** at the prompt.

Options

media—(Optional) Erase all user-created files from the system including all plain-text passwords, secrets, and private keys for SSH, local encryption, local authentication, IPsec, RADIUS, TACACS+, and SNMP.

In addition to removing all configuration and log files, the **media** option causes memory and the media to be scrubbed, removing all traces of any user-created files. The duration of the scrubbing process is dependent on the size of the media being erased. As a result, the **request system zeroize media** operation can take considerably more time than the **request system zeroize** operation.

Required Privilege Level

maintenance

Related Documentation

- Reverting to the Default Factory Configuration for the EX Series Switch on page 20
- Reverting to the Rescue Configuration for the EX Series Switch on page 23

List of Sample Output

request system zeroize (EX4200 Switch) on page 109
request system zeroize media (EX4200 Switch) on page 110
request system zeroize (ACX2000 Universal Access Router) on page 112

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Sample Output

request system zeroize (EX4200 Switch)

```
user@switch> request system zeroize
warning: System will be rebooted and may not boot without configuration
Erase all data, including configuration and log files? [yes,no] (no) yes

0 1 1 0 0 0 done

syncing disks... All buffers synced.
Uptime: 5d19h20m26s
recorded reboot as normal shutdown
Rebooting...

U-Boot 1.1.6 (Mar 11 2011 - 04:39:06)

Board: EX4200-24T 2.11
EPLD:  Version 6.0 (0x85)
DRAM:  Initializing (1024 MB)
FLASH: 8 MB

Firmware Version: --- 01.00.00 ---
USB:   scanning bus for devices... 2 USB Device(s) found
       scanning bus for storage devices... 1 Storage Device(s) found

ELF file is 32 bit
Consoles: U-Boot console

FreeBSD/PowerPC U-Boot bootstrap loader, Revision 2.4
(user@juniper.net, Fri Mar 11 03:03:36 UTC 2011)
Memory: 1024MB
bootsequencing is enabled
bootsuccess is set
new boot device = disk0s1:
Loading /boot/defaults/loader.conf
/kernel data=0x915c84+0xa1260 syms=[0x4+0x7cbd0+0x4+0xb1c19]


Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [/kernel]...
Kernel entry at 0x800000e0 ...
GDB: no debug ports present
KDB: debugger backends: ddb
KDB: current backend: ddb
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JUNOS 11.1R1.8 #0: 2011-03-09 20:14:25 UTC

user@juniper.net:/volume/build/junos/11.1/release/11.1R1.8/obj-powerpc/bsd/kernels/
  JUNIPER-EX/kernel
Timecounter "decrementer" frequency 50000000 Hz quality 0
cpu0: Freescale e500v2 core revision 2.2
cpu0: HID0 80004080
...
```

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request system zeroize media (EX4200 Switch)

```
user@switch> request system zeroize media
warning: System will be rebooted and may not boot without configuration
Erase all data, including configuration and log files? [yes,no] (no) yes

warning: ipsec-key-management subsystem not running - not needed by configuration.
warning: zeroizing fpc0

{master:0}
root> Waiting (max 60 seconds) for system process `vnlru' to stop...done
. . .
Syncing disks, vnodes remaining...2 4 2 4 3 2 1 1 0 0 0 done

syncing disks... All buffers synced.
Uptime: 14m50s
recorded reboot as normal shutdown
Rebooting...

U-Boot 1.1.6 (Apr 21 2011 - 13:58:42)

Board: EX4200-48PX 1.1
EPLD:  Version 8.0 (0x82)
DRAM:  Initializing (512 MB)
FLASH: 8 MB
NAND:  No NAND device found!!!
0 MiB

Firmware Version: --- 01.00.00 ---
USB:   scanning bus for devices... 2 USB Device(s) found
       scanning bus for storage devices... 1 Storage Device(s) found

ELF file is 32 bit
Consoles: U-Boot console

FreeBSD/PowerPC U-Boot bootstrap loader, Revision 2.2
(vtseng@svl-junos-pool27.juniper.net, Fri Feb 26 17:48:51 PST 2010)
Memory: 512MB
Loading /boot/defaults/loader.conf
/kernel data=0x9abfdc+0xb06e4 syms=[0x4+0x83b30+0x4+0xbd7c6]

Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [/kernel] in 1 second... Booting [/kernel]...
Kernel entry at 0x800000e0 ...
GDB: no debug ports present
KDB: debugger backends: ddb
KDB: current backend: ddb
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JUNOS 11.4R1.2 #0: 2011-10-27 18:05:39 UTC
    user@juniper.net:/volume/build/junos/11.4/release/11.4R1.2/obj-powerpc/
bsd/kernels/JUNIPER-EX/kernel
can't re-use a leaf (all_slot_serialid)!
Timecounter "decrementer" frequency 50000000 Hz quality 0
cpu0: Freescale e500v2 core revision 2.2
cpu0: HID0 80004080<EMCP,TBEN,EN_MAS7_UPDATE>
real memory  = 511705088 (488 MB)
avail memory = 500260864 (477 MB)
ETHERNET SOCKET BRIDGE initialising
Initializing EXSERIES platform properties ...
```


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```
. . .
Automatic reboot in progress...
Media check on da0 on ex platforms
** /dev/da0s2a
FILE SYSTEM CLEAN; SKIPPING CHECKS
clean, 20055 free (31 frags, 2503 blocks, 0.0% fragmentation)
zeroizing /dev/da0s1a ...
. . .
zeroizing /dev/da0s3d ...
. . .
zeroizing /dev/da0s3e ...
. . .
zeroizing /dev/da0s4d ...
. . .
zeroizing /dev/da0s4e ...
. . .

syncing disks... All buffers synced.
Uptime: 3m40s
Rebooting...

U-Boot 1.1.6 (Apr 21 2011 - 13:58:42)

Board: EX4200-48PX 1.1
EPLD:  Version 8.0 (0x82)
DRAM:  Initializing (512 MB)
FLASH: 8 MB
NAND:  No NAND device found!!!
0 MiB

Firmware Version: --- 01.00.00 ---
USB:   scanning bus for devices... 2 USB Device(s) found
       scanning bus for storage devices... 1 Storage Device(s) found

ELF file is 32 bit
Consoles: U-Boot console

FreeBSD/PowerPC U-Boot bootstrap loader, Revision 2.2
(vtseng@svl-junos-pool27.juniper.net, Fri Feb 26 17:48:51 PST 2010)
Memory: 512MB
Loading /boot/defaults/loader.conf
/kernel data=0x9abfdc+0xb06e4 syms=[0x4+0x83b30+0x4+0xbd7c6]

Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [/kernel] in 1 second... Booting [/kernel]...
Kernel entry at 0x800000e0 ...
GDB: no debug ports present
KDB: debugger backends: ddb
KDB: current backend: ddb
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 The Regents of the University of California. All rights reserved.
JUNOS 11.4R1.2 #0: 2011-10-27 18:05:39 UTC
    user@juniper.net:/volume/build/junos/11.4/release/11.4R1.2/obj-powerpc/
bsd/kernels/JUNIPER-EX/kernel
can't re-use a leaf (all_slot_serialid)!
Timecounter "decrementer" frequency 50000000 Hz quality 0
cpu0: Freescale e500v2 core revision 2.2
cpu0: HID0 80004080 <EMCP,TBEN,EN_MAS7_UPDATE>
```

```
real memory  = 511705088 (488 MB)
avail memory = 500260864 (477 MB)
ETHERNET SOCKET BRIDGE initialising
Initializing EXSERIES platform properties ...
. . .
Automatic reboot in progress...
Media check on da0 on ex platforms
** /dev/da0s1a
FILE SYSTEM CLEAN; SKIPPING CHECKS
clean, 20064 free (48 frags, 2502 blocks, 0.1% fragmentation)
zeroizing /dev/da0s2a ...
. . .
Creating initial configuration...mgd: error: Cannot open configuration file:
/config/juniper.conf
mgd: warning: activating factory configuration
mgd: commit complete
mgd: ------------------------------------------------------------
mgd: Please login as 'root'. No password is required.
mgd: To start Initial Setup, type 'ezsetup' at the JUNOS prompt.
mgd: To start JUNOS CLI, type 'cli' at the JUNOS prompt.
mgd: ------------------------------------------------------------
Setting initial options:  debugger_on_panic=NO debugger_on_break=NO.
Starting optional daemons: .
Doing initial network setup:
. . .

Amnesiac (ttyu0)
```

request system zeroize (ACX2000 Universal Access Router)

```
user@switch> request system zeroize
warning: System will be rebooted and may not boot without configuration
Erase all data, including configuration and log files? [yes,no] (no) yes

warning: ipsec-key-management subsystem not running - not needed by configuration.
warning: zeroizing re0

regress@fortius-g20-p2>
telnet> q
Connection closed.
bash-2.05b$
bash-2.05b$
bash-2.05b$ telnet fortius-g20-p2-con
Trying 10.216.3.52...
Connected to fortius-g20-p2-con.
Escape character is '^]'.

 Entering server port, ..... type CTRL-z for port menu.

 >> 'nobody' initiated a new r/w session
defaults/loader.conf
/kernel data=0x9178e4+0x94014 syms=[0x4+0x80370+0x4+0xb85d4]


Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [/kernel]...
Kernel entry at 0xa00000e0 ...
GDB: debug ports: uart
GDB: current port: uart
KDB: debugger backends: ddb gdb
KDB: current backend: ddb
platform_early_bootinit: MX-PPC Series Early Boot Initialization
mxppc_set_re_type: hw.board.type is ACX-2000
```


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```
WDOG initialized
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        The Regents of the University of California. All rights reserved.
JUNOS 11.4-20110829_eabu_12q2.0 #0: 2011-08-29 13:48:25 UTC

builder@sv1-eabu04.juniper.net:/volume/build/junos/eabu_12q2/11.4/development/20110829.0/obj-powerpc/bsd/kernels/JUNIPER-PPC/kernel
WARNING: debug.mpsafenet forced to 0 as ipsec requires Giant
Timecounter "decrementer" frequency 62500000 Hz quality 0
cpu0: Freescale e500v2 core revision 5.1
cpu0: HID0 80004000<EMCP,TBEN>
real memory  = 1585446912 (1512 MB)
avail memory = 1553997824 (1482 MB)
Security policy loaded: JUNOS MAC/runasnonroot (mac_runasnonroot)
Security policy loaded: JUNOS MAC/pcap (mac_pcap)
ETHERNET SOCKET BRIDGE initialising
Initializing M/T platform properties ..
nexus0: <PPC e500 Nexus device>
ocpbus0: <on-chip peripheral bus> on nexus0
openpic0: <OpenPIC in on-chip peripheral bus> iomem 0xf7f40000-0xf7f600b3 on
ocpbus0
uart0: <16550 or compatible> iomem 0xf7f04500-0xf7f0450f irq 58 on ocpbus0
uart0: console (9600,n,8,1)
uart1: <16550 or compatible> iomem 0xf7f04600-0xf7f0460f irq 58 on ocpbus0
lbc0: <Freescale 8533 Local Bus Controller> iomem
0xf7f05000-0xf7f05fff,0xf8000000-0xffffffff irq 17 on ocpbus0
cfi0: <AMD/Fujitsu - 8MB> iomem 0xffc00000-0xffffffff on lbc0
fsyspld0 iomem 0xfef00000-0xfef00fff on lbc0
ramdev0 iomem 0xfee1f000-0xfee1ffff on lbc0
i2c0: <MPC85XX OnChip i2c Controller> iomem 0xf7f03000-0xf7f03014 irq 59 on ocpbus0
8564 rtc0: <8564 RTC> on i2c0
USB2513i usb hub0: <USB2513Bi usb hub> on i2c0
tsec0: <eTSEC ethernet controller> iomem 0xf7f24000-0xf7f24fff irq 45,46,50 on
ocpbus0
tsec0: hardware MAC address 84:18:88:c0:2b:7f
miibus0: <MII bus> on tsec0
brgphy0: <BCM54610 10/100/1000baseTX PHY> on miibus0
brgphy0:  10baseT, 10baseT-FDX, 100baseTX, 100baseTX-FDX, 1000baseT, 1000baseT-FDX,
 auto
tsec1: <eTSEC ethernet controller> iomem 0xf7f25000-0xf7f25fff irq 51,52,56 on
ocpbus0
tsec1: hardware MAC address 02:00:00:00:00:04
miibus1: <MII bus> on tsec1
gentbi0: <Generic ten-bit interface> on miibus1
gentbi0:  1000baseSX-FDX, 1000baseT-FDX, auto
ehci0: <Frescale Integrated USB 2.0 controller> iomem 0xf7f22000-0xf7f22503 irq
44 on ocpbus0
usb0: EHCI version 1.0
usb0 on ehci0
usb0: USB revision 2.0
uhub0: Freescale EHCI root hub, class 9/0, rev 2.00/1.00, addr 1
uhub0: 1 port with 1 removable, self powered
uhub1: SMSC USB2513Bi, class 9/0, rev 2.00/b.a0, addr 2
uhub1: multiple transaction translators
uhub1: 3 ports with 3 removable, self powered
umass0: vendor 0x13fe USB DISK 2.0, rev 2.00/1.00, addr 3
umass0: SCSI over Bulk-Only; quirks = 0x0000
umass0:0:0:-1: Attached to scbus0
Initializing product: 123 ..
```

```
Setting up M/T interface operations and attributes
platform_cookie_read not implemented
da0 at umass-sim0 bus 0 target 0 lun 0
da0: < USB DISK 2.0 PMAP> Fixed Direct Access SCSI-0 device
da0: 40.000MB/s transfers
da0: 3824MB (7831552 512 byte sectors: 255H 63S/T 487C)
Trying to mount root from ufs:/dev/da0s1a
Attaching /packages/jbase via /dev/mdctl...
Mounted jbase package on /dev/md0...

Verified manifest signed by PackageProduction_11_4_0
Verified jboot signed by PackageProduction_11_4_0
Verified jbase-ppc-11.4-20110829_eabu_12q2.0 signed by PackageProduction_11_4_0
Mounted jkernel package on /dev/md1...
Verified manifest signed by PackageProduction_11_4_0
veriexec: fingerprint for dev 60, file 49356
38a5b5bdf8437749bea3041d2acdb9a7568dd315 !=
a2379db31407cc4ea211148f95d92a62945d24df
Verified jkernel-ppc-11.4-20110829_eabu_12q2.0 signed by PackageProduction_11_4_0
Mounted jpfe package on /dev/md2...
Mounted jdocs package on /dev/md3...
Verified manifest signed by PackageProduction_11_4_0
Verified jdocs-11.4-20110829_eabu_12q2.0 signed by PackageProduction_11_4_0
Mounted jroute package on /dev/md4...
Verified manifest signed by PackageProduction_11_4_0
Verified jroute-ppc-11.4-20110829_eabu_12q2.0 signed by PackageProduction_11_4_0
Mounted jcrypto package on /dev/md5...
Verified manifest signed by PackageProduction_11_4_0
Verified jcrypto-ppc-11.4-20110829_eabu_12q2.0 signed by PackageProduction_11_4_0
swapon: adding /dev/da0s1b as swap device
Automatic reboot in progress...
** /dev/da0s1a
FILE SYSTEM CLEAN; SKIPPING CHECKS
clean, 367062 free (38 frags, 45878 blocks, 0.0% fragmentation)
** /dev/da0s1e
FILE SYSTEM CLEAN; SKIPPING CHECKS
clean, 51316 free (28 frags, 6411 blocks, 0.1% fragmentation)
** /dev/da0s1f
FILE SYSTEM CLEAN; SKIPPING CHECKS
clean, 690268 free (84 frags, 86273 blocks, 0.0% fragmentation)
tunefs: soft updates remains unchanged as disabled
Creating initial configuration...mgd: error: Cannot open configuration file:
/config/juniper.conf
mgd: warning: activating factory configuration
mgd: commit complete
Setting initial options:  debugger_on_panic=NO debugger_on_break=NO.
Starting optional daemons: .
Doing initial network setup:
.
Initial interface configuration:
additional daemons:.
checking for core dump...
savecore: Router rebooting after a normal shutdown...
savecore: Router rebooting after a normal shutdown...
savecore: no dumps found
Additional routing options:kern.module_path: /boot//kernel;/boot/modules ->
/modules/peertype;/modules/ifpfe_drv;/modules/iLoading the IMA Group Media Layer;
 Attaching to media services layer
Loading the IMA Link Media Layer; Attaching to media services layer
fpfe_media;/modules/dev;/modules/platform;/modulLoading the SONET Media Layer;
Attaching to media services layer
```


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```
es;
kld netpfe media: ifpfem_ds0 ifpfem_ds1e1 ifpfem_ds3e3 ifpfLoading the CHMIC
module
em_ima ifpfem_otn ifpfem_sonetkld netpfe drv: ifpfed_atm ifpfed_chmic
ifpfed_controller ifpfed_ds0 ifpfed_ds1e1 ifpfed_ds3e3 ifpfed_eth ifpfed_irb
ifpfed_lt ifpfed_ml_cmn ifpfed_ml_ha ifpfed_posLoading POS driver
 ifpfed_pppoemodule_register: module if_pfe_pppoe already exists!
Module if_pfe_pppoe failed to register: 17
kldload: can't load /modules/ifpfe_drv/ifpfed_pppoe.ko: File exists
 ifpmodule_register: module pci/em already exists!
Module pci/em failed to register: 17
fed_svcs ifpfed_vtkld platform: if_emkldload: can't load /moduleLoading Multilink
 Services PICs module.
Loading the M&T Platform NETPFE module
s/platform/if_em.ko: File exists
 mt_ifpfekld platform devices: uhidkld peertype: peertype_xdpc ipsec kld.
Doing additional network setup:.
Starting final network daemons:.
setting ldconfig path: /usr/lib /opt/lib
starting standard daemons: cron.
Initial rc.powerpc initialization:.

 Lock Manager
RDM Embedded 7 [04-Aug-2006] http://www.birdstep.com
Copyright (c) 1992-2006 Birdstep Technology, Inc.  All Rights Reserved.

Unix Domain sockets Lock manager
Lock manager 'lockmgr' started successfully.

Database Initialization Utility
RDM Embedded 7 [04-Aug-2006] http://www.birdstep.com
Copyright (c) 1992-2006 Birdstep Technology, Inc.  All Rights Reserved.

/var/pdb/profile_db initialized

Profile database initialized
Local package initialization:.
kern.securelevel: -1 -> 1
starting local daemons:.
Sat Sep  3 16:10:41 UTC 2011

Amnesiac (ttyu0)
```

show system commit

Syntax show system commit

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Display the system commit history and any pending commit operation.

Options This command has no options.

Required Privilege Level view

Related Documentation
- clear system commit on page 85

List of Sample Output
show system commit on page 117
show system commit (At a Particular Time) on page 117
show system commit (At the Next Reboot) on page 117
show system commit (Rollback Pending) on page 117
show system commit (QFX Series) on page 117

Output Fields Table 13 on page 116 describes the output fields for the **show system commit** command. Output fields are listed in the approximate order in which they appear.

Table 13: show system commit Output Fields

Field Name	Field Description
Commit history	Displays the last 50 commit operations listed, most recent to first. The identifier **rescue** designates a configuration created for recovery using the **request system configuration rescue save** command.
Timestamp	Date and time of the commit operation.
Username	User who executed the commit operation.
Commit method	Method used to execute the commit operation: • **cli**—CLI interactive user performed the commit operation. • **Junos XML protocol**—Junos XML protocol client performed the commit operation. • **synchronize**—The **commit synchronize** command was performed on the other Routing Engine. • **snmp**—An SNMP **set** request caused the commit operation. • **button**—A button on the router or switch was pressed to commit a rescue configuration for recovery. • **autoinstall**—A configuration obtained through autoinstallation was committed. • **other**—A method other than those identified was used to perform the commit operation.

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Sample Output

show system commit

```
user@host> show system commit
0   2003-07-28 19:14:04 PDT by root via other
1   2003-07-25 22:01:36 PDT by regress via cli
2   2003-07-25 22:01:32 PDT by regress via cli
3   2003-07-25 21:30:13 PDT by root via button
4   2003-07-25 13:46:48 PDT by regress via cli
5   2003-07-25 05:33:21 PDT by root via autoinstall
...
rescue  2002-05-10 15:32:03 PDT by root via other
```

show system commit (At a Particular Time)

```
user@host> show system commit
commit requested by root via cli at Tue May  7 15:59:00 2002
```

show system commit (At the Next Reboot)

```
user@host> show system commit
commit requested by root via cli at reboot
```

show system commit (Rollback Pending)

```
user@host> show system commit
0 2005-01-05 15:00:37 PST by root via cli commit confirmed, rollback in 3mins
```

show system commit (QFX Series)

```
user@switch> show system commit
0   2011-11-25 19:17:49 PST by root via cli
```

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show system configuration archival

Syntax show system configuration archival

Release Information Introduced in Junos OS Release 7.6.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Display directory and number of files queued for archival transfer.

NOTE: The **[edit system configuration]** hierarchy is not available on QFabric systems.

Options This command has no options.

Required Privilege Level maintenance

List of Sample Output show system configuration archival on page 118

Sample Output

show system configuration archival

```
user@host> show system configuration archival

/var/transfer/config/:
total 8
```


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show system configuration rescue

Syntax show system configuration rescue

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Display a rescue configuration, if one exists.

NOTE: The **[edit system configuration]** hierarchy is not available on QFabric systems.

Options This command has no options.

Required Privilege Level maintenance

Related Documentation
- show system configuration archival on page 118

List of Sample Output show system configuration rescue on page 119

Sample Output

show system configuration rescue

```
user@switch> show system configuration rescue
version "7.3"; groups {
    global {
        system {
            host-name router1;
            domain-name customer.net;
            domain-search [ customer.net ];
            backup-router 192.168.124.254;
            name-server {
                172.17.28.11;
                172.17.28.101;
                172.17.28.100;
                172.17.28.10;
            }
            login {
                user regress {
                    uid 928;
                    class ;
                    shell csh;
                    authentication {
                        encrypted-password "$1$kPU..$w.4FGRAGanJ8U4Yq6sbj7."; ##
SECRET-DATA
                    }
                }
            }
            services {
                ftp;
                rlogin;
```

```
                    rsh;
                    telnet;
                }
            }
        }
    ....
```


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show system rollback

Syntax show system rollback *number*
<compare *number*>

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Display the contents of a previously committed configuration, or the differences between two previously committed configurations.

NOTE: The show system rollback command is a purely operational mode command and cannot be issued with run from the configuration mode.

Options ***number***—Number of a configuration to view. The output displays the configuration. The range of values is **0** through **49**.

compare *number* —(Optional) Number of another previously committed (rollback) configuration to compare to rollback ***number***. The output displays the differences between the two configurations. The range of values is **0** through **49**.

Required Privilege Level view

List of Sample Output show system rollback compare on page 121

Sample Output

show system rollback compare

```
user@host> show system rollback 3 compare 1
[edit]
+  interfaces {
+      ge-1/1/1 {
+          unit 0 {
+              family inet {
+                  filter {
+                      input mf_plp;
+                  }
+                  address 14.1.1.1/30;
+              }
+          }
+      }
+      ge-1/2/1 {
+          unit 0 {
+              family inet {
+                  filter {
+                      input mf_plp;
+                  }
+                  address 13.1.1.1/30;
+              }
+          }
+      }
```

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```
+      ge-1/3/0 {
+          unit 0 {
+              family inet {
+                  filter {
+                      input mf_plp;
+                  }
+                  address 12.1.1.1/30;
+              }
+          }
+      }
+}
```


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test configuration

Syntax test configuration *filename*

Release Information Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Command introduced in Junos OS Release 11.1 for the QFX Series.

Description Verify that the syntax of a configuration file is correct. If the configuration contains any syntax or commit check errors, a message is displayed to indicate the line number and column number in which the error was found.

Options ***filename***—Name of the configuration file.

syntax-only—Check the syntax of a partial configuration file, without checking for commit errors. This option introduced in Junos OS Release 12.1.

Required Privilege Level view

List of Sample Output test configuration on page 123

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

test configuration

```
user@host> test configuration terminal
[Type ^D to end input]
system {
host-name bluesky;
paris-23;
login;
}
terminal:3:(8) syntax error: paris
  [edit system]
    'paris-23;'
      syntax error
terminal:4:(11) statement must contain additional statements: ;
  [edit system login]
    'login ;'
      statement must contain additional statements
configuration syntax failed
```

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PART 4

Troubleshooting

- Troubleshooting Procedures on page 127

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CHAPTER 8

Troubleshooting Procedures

- Troubleshooting Loss of the Root Password on page 127

Troubleshooting Loss of the Root Password

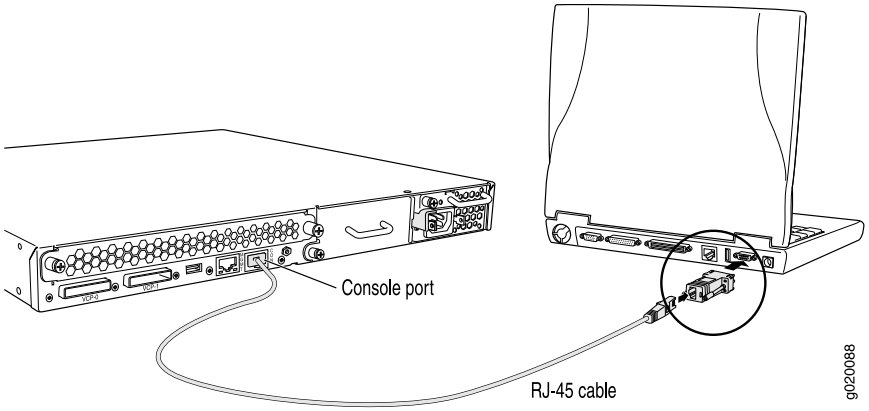
Problem If you forget the root password for the switch, you can use the password recovery procedure to reset the root password.

NOTE: You need physical access to the switch to recover the root password.

Solution To recover the root password:

1. Power off your switch by unplugging the power cord or turning off the power at the wall switch.
2. Insert one end of the Ethernet cable into the serial port on the management device and connect the other end to the console port on the back of the switch. See Figure 2 on page 127

Figure 2: Connecting to the Console Port on the EX Series Switch



3. On the management device, start your asynchronous terminal emulation application (such as Microsoft Windows Hyperterminal) and select the appropriate **COM** port to use (for example, **COM1**).

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4. Configure the port settings as follows:
   - Bits per second: 9600
   - Data bits: 8
   - Parity: None
   - Stop bits: 1
   - Flow control: None
5. Power on your switch by plugging in the power cord or turning on the power at the wall switch.
6. When the following prompt appears, press the Spacebar to access the switch's bootstrap loader command prompt:

   ```
   Hit [Enter] to boot immediately, or space bar for command prompt.
   Booting [kernel] in 1 second...
   ```

7. At the following prompt, type **boot -s** to start up the system in single-user mode:
   loader> boot -s
8. At the following prompt, type **recovery** to start the root password recovery procedure:
   Enter full path name of shell or 'recovery' for root password recovery or RETURN for /bin/sh: recovery

   A series of messages describe consistency checks, mounting of filesystems, and initialization and checkout of management services. Then the CLI prompt appears.
9. Enter configuration mode in the CLI:
   user@switch> configure
10. Set the root password. For example:
    user@switch# set system root-authentication plain-text-password
11. At the following prompt, enter the new root password. For example:
    New password: juniper1

    ```
    Retype new password:
    ```

12. At the second prompt, reenter the new root password.
13. If you are finished configuring the network, commit the configuration.
    root@switch# commit

    ```
    commit complete
    ```

14. Exit configuration mode in the CLI.
    root@switch# exit
15. Exit operational mode in the CLI.
    root@switch> exit
16. At the prompt, enter **y** to reboot the switch.
    Reboot the system? [y/n] y

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Related Documentation

- Connecting and Configuring an EX Series Switch (CLI Procedure)
- Connecting and Configuring an EX Series Switch (J-Web Procedure)
- For information about configuring an encrypted root password, configuring SSH keys to authenticate root logins, and configuring special requirements for plain-text passwords, see the *Junos OS System Basics Configuration Guide*.

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